

History of Ophthalmology
Monograph

**Biographies of Ophthalmologists
from Around the World:
Ancient, Medieval,
and Early Modern.**

edited by
Christopher T. Leffler

October 14, 2024

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Ancient, Medieval, and Early Modern.**

Christopher T. Leffer, editor.

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Biographies of Ophthalmologists from Around the World: Ancient, Medieval, and Early Modern.

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Introduction.

The purpose of this book is to serve as a resource for those studying the history of ophthalmology, or the history of medicine more broadly. It is simply a brief biography of all the ophthalmic healers in the world that we could identify in the ancient, medieval, and early modern periods. For all countries, we sought to identify ophthalmic healers at least through 1700. For some regions, such as the British Isles, and the Americas, we covered at least through 1800. If you are interested in studying all women ophthalmologists, all ophthalmologists of particular religions, or ophthalmologists from particular countries, you can find useful information here. We have included some family trees from families with numerous ophthalmologists. We have included some images of archival documents, as well. The editor would like to thank all of the other contributors to this book. If you find additional ophthalmologists who should be included, please email the editor at chrislefflermd@gmail.com.

Chris Leffler

October 2024.

1. A Chronology of Oculists and Cataract Surgeons in the Middle East (2200 BCE-).

Christopher T. Leffler, MD, MPH. Mohannad Al-Samarraie, MD.

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Egypt (2200 BCE-).

In Egypt in the Old Kingdom (2700 – **2200 BCE**), 7 ophthalmic specialists are known. This total constitutes one third of all known specialists.²

The Ebers papyrus, the Edwin-Smith papyrus, and other medical papyri of the period speak of medical recipes for ophthalmic conditions, but none refers to cataract surgery.³

A scene from the Tomb of Ipwy (or Ipuy) (ca. **1200 BCE**) shows a worker at a construction site continuing to work while someone (possibly a doctor) approaches his eye with a rod. As someone above the worker is chiseling, it is possible that the doctor is trying to remove an ocular foreign body which had fallen into his eye. Others have suggested the application of eye ointment or paint (kohl).⁴

The Persian king Cyrus (reign **559-530 BCE**) asked the Pharaoh Amasis to send him an Egyptian oculist, according to Herodotus.⁵

Herodotus (**484-425 BCE**) mentioned that Egypt had specialized medicine, including eye specialists.

Herophilus of Alexandria (**355-255 BCE**), wrote a now-lost treatise *On Eyes*, dissected the eyes of humans, and is credited by von Staden with the discovery of the optic nerve.⁶ Herophilus described the posterior surface of the iris and compared the retina to a net.⁷ We make the circumstantial case elsewhere in this volume that his anatomic descriptions make it likely that he was familiar with cataract surgery.

Diodorus Siculus, who wrote from 60 to **30 BCE**, wrote that the Egyptian goddess Isis would cure people in their sleep: “numbers who have altogether lost the use of their eyes or

¹ Dr. Leffler and Dr. Al-Samarrie, Dept. of Ophthalmology, Virginia Commonwealth University. Dr. Mahdi, Dept. of Pediatric Radiology, Virginia Commonwealth University. Ms. Al-Samarrie, Richmond, VA. Note that the transcription styles in the cited works were retained to enable scholars to search the original works. As this style varied between cited works, a number of transcription styles are used in this chapter. This chapter is cited: Leffler CT, al-Samarrie M, Mahdi E, al-Samarrie R. A Chronology of Oculists and Cataract Surgeons in the Middle East (2200 BCE-). In: Leffler CT (ed.). *Biographies of Ophthalmologists from Around the World. Ancient, Medieval, and Early Modern*. 2024.

² Blomstedt 2014.

³ Blomstedt 2014.

⁴ Blomstedt 2014.

⁵ von Staden 1989, p. 20.

⁶ von Staden 1989, pp. 20, 69, 72, 79, 160, 423.

⁷ von Staden 1989, pp. 205-6.

some other part of their body, wherever they turn for help to this goddess, are restored to their previous condition.”¹

In the **first century CE**, an anonymous papyrus from Egypt entitled *Traité Sur L’Enseignement de la Chirurgie*, contains a fragment of the surgeon Archibios. The work mentions Hippocrates’ teaching (Life is short and the art is long), and then states that it is absurd that students would not know the definitions of cataract (ὕποχυμα, *hypochyma*), *hydrops* (ὕδρωφ), and the rudiments of surgery.²

In 69 CE, the Roman general (and future emperor) Vespasian was said to have applied his spittle to cure a blind man at the temple of Serapis in Alexandria.³

An Egyptian papyrus from the **2nd century CE** (*Questionnaire d’Ophthalmologie*) reviews the differences between glaucoma (γλαύχωα), cataract (ὕποχυμα, *hypochyma*), staphyloma, and pterygium (πτερύγιον, *pterygion*).⁴ Glaucoma could not be treated. Cataract implied a white color in the pupil, and was more treatable than glaucoma, though cataract surgery was not explicitly specified. Pterygium was operated with a hook, and staphyloma with a needle, while a flux of humors was cauterized.⁵

Pseudo-Galen (c. 129–**199 CE**) in *Introductio Sive Medicus* attributed the invention of cataract surgery to the Egyptians, who he claimed had observed a goat cure itself of cataracts when a sharp rush leaf penetrated its eye.⁶

Leonidas of Alexandria (c. **300 CE**) told the story of a goat curing itself of cataracts when a wild pear plant penetrated the eye.⁷

Antyllus, thought possibly to be of Alexandria, described cataract surgery, both couching, and possibly extraction by aspiration. Based on citations, he must have followed the early 2nd century surgeon Archigenes, and must have preceded the **4th century** author Oribasius.⁸

A frescoe from about **800 CE** in the Deir al-Surian monastery in the Scetis Desert in Egypt of Saint Colluthos performing an eye surgery is realistic and detailed enough to suggest that the artist was familiar with cataract couching.⁹ This is the earliest realistic imagery likely to represent cataract couching with which we are familiar, though other procedures, such as scraping a corneal lesion, cannot be absolutely excluded.

¹ Cotter 1999, p. 32-3.

² Marganne 1981, pp. 7-8. The treatise is denoted: BKT 3.22-26, inv. 9764 = Pack2 2354.

³ Cotter 1999, p. 40-42.

⁴ Marganne 1981, pp. 266-7. The treatise is denoted: P. Ross. Georg. 1. 20; Pack2 2343.

⁵ Marganne 1994, p. 120-1.

⁶ Passage: 14.674-676 K in *Introductio Sive Medicus* (14.674-797 K); Jouanna 2012, pp. 15-16.

⁷ Leffler “goat’s eye” 2018.

⁸ Grant 1960, 1961; Leffler “Annals” 2020.

⁹ Starodubcev 2018.

Abou Ali Khalef el Thoulouny wrote a book on eye disease entitled *El Kefaya*, which was written over the course of 38 years, from 876 to **914**¹.

Isaac Israeli ben Solomon (Yitzhak ben Shlomo ha-Yisraeli, Abu Ya'qub Ishaq ibn Suleiman al-Isra'ili) (c. 832 – c. **932**) was a physician also described as an oculist who emigrated to Tunisa.²

Many Geniza documents are dated from the 10th to 13th centuries. In a Cairo Geniza letter, an **oculist apprentice** who had not obtained his doctor's diploma complained that he was kept so busy that he did not have enough time to pray.³ Resident physicians had to practice under supervision. One oculist wrote to his assistant: "I heard that Menahem has already been licensed, while you are still only a *mu'allim* (unlicensed practitioner)".⁴ Pormann and Savage-Smith state that in Muslim sources "there are in fact a comparatively high number of instances where the female practitioners mentioned in our sources worked as ophthalmologists".⁵ Likewise, in the Genizah documents, one female oculist received alms, and was probably poor.⁶

Abu Ali Khalaf at-Tuluni (d. 302 AH, **914**) was an oculist and doctor, and wrote "*al-Nihayah Wal-Kifayah Fi Tarkeeb Al Aynayn wa Khalqathuma Wa 'ilajahuma*" about the structure of the eyes and their creation and treatment.⁷

Abū 'Abdullāh Moḥammad Ibn Sa'īd Al-Tamīmī Al-Maqdesī (d. 369 AH, **980**) of Jerusalem moved to Egypt.⁸

A'yan Ibn A'yan Al-Maṣrī (d. 385 AH, **995**). According to Uṣaybi'ā he lived in Egypt, after moving from Kairouan, and wrote "A Book about the Eye Diseases and their Management". It is unclear if he is the same as Zahroun Ibn A'yan Al-Baṣrī, of Basra, who wrote "Examination of Ophthalmologists".⁹

'Ammār Ibn 'Alī Al-Mawṣilī (d. 400 AH, **1010**). Ammar studied medicine in Mosul. He travelled extensively, and practiced in Egypt (Cairo), Baghdad, and Tiberias. He wrote "Chosen Eye Diseases and Their Treatment" and used a hollow needle to extract cataracts by suction.¹⁰

Al-Ḥasan Ibn Al-Haytham (d. 350-431 AH, 965-1039) was born in Basra, Iraq, and moved to Egypt. He wrote a treatise on optics "Al-Manazir".¹¹

¹ Pansier 1903, p. 52.

² Pansier 1903, p. 52.

³ Goitein 2010.

⁴ Lev 2021, p. 305.

⁵ Lev 2021, p. 307.

⁶ Lev 2021, p. 307.

⁷ Wafai 2018, pp. 144-145.

⁸ Wafai 2016, pp. 11-12.

⁹ Wafai 2016, pp. 12-13.

¹⁰ Wafai 2016, pp. 13-16; Ammar, Meyerhof 1937.

¹¹ Wafai 2016, pp. 45-6.

Dāniyāl (Daniel) Ibn Sha‘yā A Jewish physician of 11th century Egypt who wrote a treatise on ophthalmology (which a contemporaneous letter suggested should be memorized). His work was widely read among Jewish oculists of Fustāt [Old Cairo].¹

Abū al-Faḍl b. al-Nāqid b. Obadia, al-Ṭabīb al-Muhad-hdhab (Mevōrākh ha-Kohen) He was born in Cairo in a Jewish family. He initially practiced general medicine, but later specialized in ophthalmology (d. 1188-9). His time was limited, and therefore he instructed his students during treatments, or while riding from place to place. He became wealthy, and wrote *Mujarrabātī fī al-Ṭibb* (“My Experience in Medicine” or “The Tested Medicines”).²

Abūal-Faraj b. Abū al-Faḍā’il b. al-Nāqid, son of the above, was a Jewish oculist of 12th century Cairo who purchased a shop. He had a family member who was a merchant active in India.³ Abūal-Faraj converted to Islam, and this is the only known conversion to Islam of a Jewish physician in the Fatimid-Ayyubid period. In contrast, in the Mamluk period, multiple Jewish court physicians converted.⁴

Abū l-Hajjāj Yūsuf was an oculist who started in Damascus, but was working in Cairo by the 1190s.⁵ He worked at a hospital near the flea markets in lower Cairo (not the later hospital at the fort), and was one of the teachers of the oculist Rashīd al-Dīn ‘Alī ibn Khalīfah.⁶

Ibn Shū’a (al-Muwaffaq). (or Al-Monafek) ben Kehadrara (or Al-Mufaqua ben Hava) One of Saladin’s physicians in Egypt, knowledgeable as an oculist and surgeon.⁷ He was Jewish and played the guitar. He died in Cairo in 1183. Ibn Shū’a wrote a humorous poem against a zealot blinded one of the eyes of Ibn Shū’a by throwing a stone, because Ibn Shū’a was riding a horse in violation of the laws restricting the *dhimmī*.⁸

Ash-Shareef Al-Kahhal (Sayyid Burhan Ad-Din Abul Fadil Sulayman): He was born and raised in Egypt, and moved to Damascus. He was an experienced oculist and served Saladin. Passed away (590 AH/1193).⁹

Asad Eddin Iakoub ben Ishaq el Mahally, a Jewish physician of 11th century Cairo, wrote a treatise on vision.¹⁰

¹ Lev 2021, p. 196.

² Lev 2021, p. 184; Ali 1996, p. 44.

³ Lev 2021, p. 184-5.

⁴ Lev 2021, p. 226.

⁵ Usaybiah 2020, p. 283-4. Pansier 1903, p. 57.

⁶ Usaybiah 2020, p. 284.

⁷ Koren 1973, pp. 15, 102.

⁸ Lev 2021, p. 75.

⁹ Wafai 2018, p. 247.

¹⁰ Pansier 1903, p. 55.

Abū al-Barakāt al-Qudā'ī al-Muwaffaq. (Abu'l Barakat el Kathai) A Jewish physician and oculist of Cairo who served the son of Saladin. The oculist died in Cairo in 598 AH/1201.¹

Abu Al-Barakat Al-Qada'i (known as Al-Muwaffaq) was a talented physician, surgeon, and eye doctor from Egypt, who died there in 598 AH/1201.²

Abū Zikrī al-Sadīd b. Elijah b. Zechariah was a Jewish oculist who practiced in Alexandria and Jerusalem. He attended sultan al-Malik al-'Azīz (reigned 1193–8), the son of Saladin. Abū Zikrī probably accompanied the court's armed forces. He wrote his father, a judge and retired physician, for help receiving a stipend from the sultan. Abū Zikrī was also a merchant and donated bread for the poor about 1230.³

Abū al-'Izz al-Kahhāl. A Jewish oculist in Egypt (12th-13th centuries).⁴

Makārim al-Kahhāl A Jewish oculist in Egypt (12th-13th centuries).⁵

Yūsuf al-Kahhāl A Jewish oculist in Egypt (c.1210).⁶

Oculists of this period in Egypt earned a good living.⁷

By 1230, the oculist **al-Dakhwar** had practiced in Egypt, Baghdad, and Damascus.⁸

Al-Qādī Nafīs al-Dīn Ibn al-Zubair, (555/1160-636/1238) was a surgeon and ophthalmologist. He was appointed chief of the Egyptian physicians and practiced ophthalmology at the al-Nasirī Hospital, which was part of the palace. He died in Cairo, but his sons continued as oculists in Cairo.⁹

Ibn Kamuna of Baghdad was a Jewish oculist who practiced in Egypt and wrote a treatise on eye diseases in the 13th century.¹⁰

Makārim b. Ishāq b. Makārim. A Jewish physician and oculist, active in Cairo c.1245. He might be the physician Makārim b. Ishāq who petitioned the sultan to receive a lifetime, salaried appointment in the hospital of Cairo.¹¹

Muwaffaq Ad-Din Abul-Khayr Bin Rashed Id-Din Abi Haleeqa (d. 1248, 646 AH): Perfected his practice as an oculist and served the king Al-Malik as-Salih Najm al-Din Ayyub, known as Abu al-Futuh (1205 – 1249), who was the Ayyubid Kurdish ruler

¹ Lev 2021, p. 48; Koren 1973, p. 9; Wafai 2018.

² Wafai 2018, p.248.

³ Lev 2021, p. 188.

⁴ Lev 2021, p. 58.

⁵ Lev 2021, p. 87.

⁶ Lev 2021, p. 113.

⁷ Lev 2021, p. 285.

⁸ Dajani 1989. See Syria.

⁹ Usaibiah 1971, p. 742; Wafai 2018, p. 248.

¹⁰ Koren 1973, p. 78.

¹¹ Lev 2021, p. 87.

of Egypt from 1240 to 1249.¹ His father was also a famous physician of the royal Mamluk family of Egypt.

Abū Al-'Abbās Aḥmad Ibn Uthmān Ibn Hibatullāh Al-Qaysī (D. 657 AH, 1259) was raised in Damascus, but moved to Egypt where he was appointed head physician, and wrote “Final Thoughts about the Treatment of Eye Diseases” (*Natijat al-fikar fi 'ilaj amrad al-basar*) at the request of the sultan in the 1240s.² Hirschberg writes that al-Qaysi described cataract surgery and likely performed the operation himself.³

Ibn Al-Nafīs: 'Alī Ibn Abī Al-Ḥazm Al-Qarashī (607-687 AH, 1210-1288) studied medicine at the Al-Nūrī hospital in Damascus. In 1236, he moved to Cairo, where he ultimately headed the Al-Nāṣirī hospital and the Al-Manṣūrī hospital. In his treatise *Al-Muḍhadhab Fi Al-Quḥl Al-Mujarrab* he described couching needles he had devised. He recommended aspiration of hypopyon, and also lowered the intraocular pressure by extracting aqueous humor to facilitate repositioning of prolapsed iris. He emphasized the requirement that an eye having cataract surgery be demonstrated preoperatively to perceive light, and described the consensual pupillary reaction as a way to distinguish pre- and post-chiasmal optic nerve injury. He wrote that chronic hypotony from wound leaks could cause shrinking of the eye. He did not perform bilateral cataract surgery in one sitting because of the possibility of contamination. He recommended the early treatment of congenital strabismus.⁴

Shams al-Dīn Abū 'Abdallāh Muḥammad Ibn Dāniyāl b. Yūsuf al-Khuzā'ī al-Mawsilī (646-710 AH, 1248-1310) was born in Mosul, which was captured by the Mongols in 1262. By 1267, Ibn Dāniyāl had moved to Cairo, where he worked as an eye surgeon, a shadow playwright, and occasional tax collector. His poems mentioned several colleagues who also treated eyes, Muwaffaq and Abū 'Alī.⁵

Abū al-Fakhr b. Abī al-Faḍl b. Abī Naṣr b. Abī al-Fakhr al-Yahūdī (Aaron ha-Levi Ibn al-Kirmānī, al-Kaḥḥāl) A Jewish physician and ophthalmologist from a family of Karaite physicians in Cairo. He bought a house in 1260 and died in 1324.⁶

Faraj Allāh (Yeshū'a) Ibn Īaghīr was a Karaite Jewish physician and oculist who studied with Ibn al-Nafīs (d. 1288). He was known for being kind and gentle. He had a salaried position in Cairo at the court of al-Nāṣir Muḥammad b. Qalāwūn (reign 1310–41). Faraj Allāh was the physician to the sultan's wives, concubines and children, and to a high-ranking officer who died in 1333. Faraj Allāh was known for being pleasant and polite and writing long prescriptions.⁷

In the hankah (a religious institution) of Sultan Al-Nasir Muhammad (reign 1291-1341), the general physician was selected from among the sufis (clerics), while the surgeon oculist

¹ Wafai 2018, pg. 252.

² Wafai 2016, p. 24.

³ Hirschberg 1985, vol. 2, p. 89; Savage-Smith 1992, p. 296; al-Qaisī 1988, pp. 56-7.

⁴ Wafai 2016, p. 30-33; Savage-Smith 1992.

⁵ Guo 2012, p. 19.

⁶ Lev 2021, p. 207.

⁷ Lev 2021, p. 212.

was selected from outside the organization.¹ This might indicate that the surgeon-oculist was a practical craft which required experience.

Asad al-Yahūdī (Usayda). A Jewish physician, oculist, and surgeon who treated fractures who practiced in Cairo, Hama, Safed, Damascus, and Aleppo. He treated the Mamluk elites. He died after 1330.²

Zayn al-Din Ayyub ibn Ni'mah al-Nabulsi was an oculist in Damascus, who practiced in Cairo from 1300 to 1322.³

Ibn Al-Akfānī, Abī 'Abdullāh Moḥammad Ibn Ibrāhīm Ibn Sa'ed Al-Anṣārī Al-Sinjārī (d. 749 AH, 1348) of Cairo was the head physician at the Al-Manṣūrī hospital and wrote "Uncovering Disorders of the Eye", in which he mentioned the hollow cataract needle for extraction by suction.⁴

Musa bin Ibrahim Bin Muhammad Al-tabeeb Al-Yaldawi Al-Salihi Al-Hanbali (d. ca. 770 AH/1369) of Cairo wrote *Al-Risalah Al-Nouria Fi Amradh Al-Ayn Al-Kulliyah* about eye diseases.⁵

Ṣadaqah Ibn Ibrāhīm Al-Maṣrī Al-Ḥanafī Al-Shazilī (or Shadhilī) lived in the second half of the 14th century in Egypt and wrote "The Ophthalmologic Support for Diseases of the Visual Organ".⁶ His name is sometimes transliterated Shadhili. He wrote that he had seen the hollow needle for cataract extraction sold in the market.⁷

Egyptian author al-Qalqashandī (d. 1418) included physicians and oculists among the craftsmen of the Fatimid and Mamluk government.⁸

Khalaf al-Kahhāl was a Jewish oculist mentioned in Egypt in 1436.⁹

The oculist **'Abd ul-Wahhab ibn Muhammad al-Shami** of Cairo died in 851 AH (c. 1458).¹⁰

In the 15th century, **Abd al-Raḥmān ibn Musá al-Munūfī** was an oculist who practiced in front of the mosque of Qusun in Cairo, was "so talented in *kuhl* [the treatment of eye diseases] that he attracted crowds of people and became so famous that he had many apprentices".¹¹

¹ Behrens-Abouseif 1989.

² Lev 2021, p. 67, 286.

³ Ibrahim 2007. See Syria

⁴ Wafai 2016, p. 35-36.

⁵ Wafai 2018, p. 205.

⁶ Wafai 2016, pp. 36-7.

⁷ Leffler "glaucoma" 2020, p. 69-70.

⁸ Gadelrab 2010.

⁹ Lev 2021, p. 285.

¹⁰ Dajani 1989.

¹¹ Gadelrab 2010.

In the **16th century**, al-Gaziri wrote in his history of the Pilgrimage to Mecca that the caravan had previously included a general physician, an oculist and a surgeon, but in his time only a surgeon was hired.¹

In **1590**, “Maître Jan Jeuris, Egyptien, né en Espagne” practiced “l’art de la chirurgie” in Anvers. He did treat patients with “des affections des yeux”.²

In **1649** (AH 1060) in Cairo, a judge consulted Sheikh **Ahmad al-Nashmātī**, a master oculist, to evaluate complaints that a surgeon provided poor treatment and showed no pity. The surgeon was replaced.³

Evliya Celebi (1611–**1682**) stated that there were no oculists (*kehhâl, kehhâli*) in Egypt, even though eye problems were common there.⁴

For two years before **1682**, **Honoratus Le Begg** of England, who couched cataracts, was held in Egypt, where he learned additional ophthalmic practices.⁵

In **1794**, the oculist **Guillaume-René Lefebure**, Baron de Sainte-Ildefont, practiced in Egypt (Schevensteen 1924, p. 63-66; see Belgium, England).

In **1893**, **Dr. Tachan** performed “a successful operation for cataract of the left eye...at the European Hospital” on a government official. The patient was required to “keep perfectly quiet for the next eight days.”⁶

In **1895**, “Chevalier **Zen-Jean**, doctor in gynecology and oculist” arrived in Alexandria.⁷

In **1938**, Max Meyerhof of Egypt wrote that the traditional healers in his area were Moors, or came from Algeria, with just a few local Egyptians.⁸

Iraq (1750 BCE-).

In Babylon, the code of Hammurabi (reign 1792-**1750 BCE**) specified the charges and penalties for making an incision which heals a man’s eye:

“If a physician [asû]...opened a man’s temple with a bronze scalpel and healed the man’s eye, he shall charge 10 shekels of silver (as his fee)... If an asû-physician has...opened a man’s temple with a bronze scalpel and blinded the man’s eye, they shall cut off his hand... If he opened his (the commoner’s slave’s) temple with a

¹ Behrens-Abouseif 1989.

² Schevensteen 1929.

³ Gadelrab 2010.

⁴ Huner 2016, p. 86.

⁵ see North Africa, Leffler “British Isles” 2021.

⁶ Egyptian Gazette, Cairo, Nov. 23, 1893, p. 2.

⁷ Zen-Jean, Egyptian Gazette, April 3, 1895, p. 2.

⁸ Leffler, Klebanov 2020.

bronze scalpel and blinded his eye, he shall weigh out silver equal to half his value.”¹

The translator noted that although many have claimed that the code describes cataract surgery, in fact, “the procedure described cannot be verified by evidence from the medical corpus itself.”² As translated, the procedure sounds like phlebotomy of a temporal blood vessel.

The Persian king Cyrus (reign 559-**530 BCE**), who ruled over Babylon, asked the Pharaoh Amasis to send him an Egyptian oculist, according to Herodotus.³

Galen (d. **216**) reported the eye salve of an oculist named **Sergius** of Babylon.⁴ Albucasis in the **10th century CE** wrote “I have heard that a certain Iraqi has said that in Iraq he makes a hollow needle by which the humour is sucked out. In our land, I have never seen anyone do it in this fashion...”⁵

‘**Ammār** ibn ‘Alī Mawṣilī, of Mosul, who practiced in Cairo in the early 11th century, manufactured a hollow needle for cataract aspiration, and first used it on a Christian in Tiberias, though one manuscript has the case at Baghdad.⁶

Māsarjawaih Al-Basri was a Persian Jewish doctor, who studied in Jundishapur (Persia) and lived in Basra. He was considered the first to translate a medical book from Syriac to Arabic, and wrote “*Kitab fil Ayn*” (“A Book about the Eye”), which can be found in Halab (Aleppo). He lived during the rule of Umar Bin Abd Al-Aziz (reign 717/99 AH –**720/101 AH**).⁷

Tadri lived in Baghdad during the 3rd century AH, and wrote “*maqala fil ayn*” (“An article about the eye”).⁸

Jibrail ibn Bukhtishu ibn Georgis (d. 214 AH, 828) first served Jaa’far bin Yahya Al-Barmkai, (visier to Harun Ar-Rasheed), then eventually became the personal physician to Harun Ar-Rasheed (d. 193 AH, 809), before switching to the personal physician of Al-Ma’mun (d. 218 AH, 833). He wrote a book by the title “*Maqala fil Ayn*” [An Article on the Eye]. He died in 214 AH, **828** in Mada’in, near Samarra.⁹

Jibrā’īl Kahhal Al-Ma’mun was originally from Syria, and was the oculist of the caliph al-Ma’mūn, who reigned in Baghdad from 813 to **833**. The caliph Al-Ma’mun stated that “he never saw someone with a softer hand on the eyes”, referring to steady hands during surgeries.¹⁰ Jibrā’īl used ivory collyrium needles when applying collyrium to the caliph,

¹ Geller 2010, p. 58-9.

² Geller 2010, p. 184.

³ von Staden 1989, p. 20.

⁴ Comp. Med. Loc. IV, Kuhn vol. 12, p. 751; Bagley 2017, p. 231.

⁵ Albucasis 1973, p. 256.

⁶ Ammar, Meyerhof 1937, pp. 47-8.

⁷ Wafai 2018, pp. 125-6.

⁸ Wafai 2018, p. 126.

⁹ Wafai 2018, pp. 127-128.

¹⁰ Wafai 2018, pp. 244-246.

just after the morning prayer and after his mid-day rest. He also washed the caliph's limbs. Jibrā'īl had a salary of 1000 dirhams per month, but when he informed another doctor that the caliph was sleeping, the caliph felt he had overstepped his bounds, and thereafter deferred from using his services, but continued to pay him 150 dirhams per month "for the sake of his dignity".¹

Māsawayh (or Māsūya) b. Yūḥannā originally lived in Jondayšāpūr, and was the father of Yūḥanna Ibn Māsawayh (born 777).² Māsawayh began as an unschooled pharmacist, but after 30 years at the hospital in Jondayšāpūr, he came to Baghdad, where he became known for treating eyes using bleeding and eyedrops.³

Yūḥanna Ibn Māsawayh (190-242 AH) (777-857) was known later as Mesue. He was a Christian who came from Jundishapur when he was "but a youth" with his pharmacist father.⁴ Yūḥanna worked at a hospital in Baghdad. He was the doctor and oculist (Kahhal) to several caliphs. He wrote "The Alteration of the Eye" and "Knowing the Ophthalmology Profession: Questions and Answers".⁵

Ḥunayn Ibn Iṣḥāq Al-'Abādī (194---264 AH, 817-887). Ḥunayn was born in al-Hira (Syria). He studied medicine under Ibn Māsawayh. In Baghdad, he translated Greek, Syriac, and Persian texts into Syriac or Arabic. He wrote "The Book of the Ten Treatises on the Eye" and "*Le livre des questions sur l'oeil*".⁶ Ḥunayn's nephew, Habish bin Al-Hassan Al-A'sam Al-Dimashqī, was born in Damascas, but lived in Baghdad, also translated from Syriac and Greek to Arabic, and wrote *Ta'reef Amradh Al-Ayn* (Descriptions of Eye Diseases).⁷

The Book of Vision and Perception (*Kitāb fī l-baṣir wa-lbaṣīra*) was composed shortly after AH 318/930, and stated that the operation of extraction was an illusion and could not be performed.⁸ This treatise also advocated patching the sound eye to improve the vision in the strabismic eye.⁹ Savage-Smith writes that the attribution of this book to **Thābit Ibn Qurrah Al-Ḥarrānī** (211-288 AH, 823-900 CE) is false.¹⁰ Ibn Qurrah was born in Harran. A physician and translator, he served on the court of the caliph in Baghdad.

Qasta Bin Luqa was a Melkite Christian physician who lived in Syria and died in Armenia (300 AH, 912). He was a skilled and respected doctor, as well as a translator fluent in Arabic, Syriac, and Greek (Wafai 2018, p. 144). He wrote "*Risala fī kitab Al-Ayn*

¹ Usaibia 1971, p. 327.

² Sajjadi 1990.

³ Sajjadi 1990; Usaibia 1971, pp. 328-37.

⁴ Usaibia 1971, p. 330.

⁵ Wafai 2016, p. 7-8. Pansier 1903, p. 49.

⁶ Wafai 2016, pp. 8-9.

⁷ Wafai 2018, pg. 140, 141.

⁸ Savage-Smith 2022.

⁹ Wafai 2016, pp. 10.

¹⁰ Savage-Smith 2022.

Wa idhar Hikmat Allah Fiha” about the structure of the eye and the wisdom of Allah (God) in it. and “*Kitab Fi tarkeeb Al-Ayn Wa ‘ilalaha*” about the Eye and its Diseases.¹

Sulaymān was an “expert oculist” in Baghdad at the time of al-Rāzī (864/865 – **925/935** CE).²

Al-Rāzī (Rhazes, 854-**925**), who lived in Baghdad, once had a man come to him “to have his eye couched”, but it was not mature, so al-Razi ordered him to continue eating fish to help consolidate the cataract.³ Al-Razi himself ultimately developed cataract and was offered surgery, but declined because “I have seen this world to the point where I am weary of it.”⁴ According to one account, he told this directly to the oculist who had come to operate on him.⁵

In 941, the Andalusian brothers Ahmad and ‘Umar travelled to Baghdad to train in the treatment of eye diseases, only returning in 962.⁶

Abū Nasr ibn al-Dahlī was one of the “distinguished oculists” who worked at the new hospital built on the west side of Baghdad built by ‘Adud al-Dawlah (reigned **949-983** CE).⁷

‘Alī Ibn Al-‘Abbās Al-Ahwāzī (d. 383 AH, **994**) of Baghdad wrote a general medical text, “The Royal Book (the Complete Art of Medicine)” which included a chapter on eye diseases. He was the physician to the caliph.⁸

Ibn Wasīf al-Sabī’ (the Sabian) was a physician who treated eye diseases. A story is told about him by Usaybiya in the section on physicians of “Iraq, al-Jazirah and Diyar Bekr”, along with stories from the **10th century**. “No one in his time had a greater knowledge of that discipline or practiced it with greater zeal”. A colleague remembered that “seven patients were waiting to have their eyes operated upon. One of them was a man from Khurāsān whom Ibn Wasīf had sit in front of him. Looking at his eyes, he perceived a cataract ripe for operation. When he informed the patient accordingly, the latter asked him to go ahead, offering a fee of eighty dirhams and swearing that he had no more in his possession. Since the man had sworn, Ibn Wasīf agreed, but then he drew him close, placed his hand on his upper arm and found a small belt containing dinars. When Ibn Wasīf asked what it meant, the Khurāsām changed color, and Ibn Wasīf said: ‘You swore by God and committed perjury. Do you now expect your eyesight to be restored? By Allāh, I shall never treat you because you have tried to cheat your Lord.’ Although the man begged him to

¹ Wafai 2018, p. 144.

² Usaibiah 1971, pp. 550-1.

³ Savage-Smith 2022.

⁴ ‘Usaybi’a 2017, p. 428.

⁵ Savage-Smith 2022.

⁶ Ibn Abī ‘Uṣaybi’a, Kopf 2017, p. 490.

⁷ Usaibiah 1971, p. 534-5.

⁸ Wafai 2016, p. 42.

perform the operation, Ibn Wasīf refused. He returned the eighty dirhams to him and dismissed him.”¹

Jebrā’īl b. ‘Obaydillāh b. Boktīšū’ (d. 396 AH, 1006) descended from the Boktīšū’ family from Jondayšāpūr, and served as the personal physician to ‘Azod-al-Dawla (d. 372 AH, 995). The doctor wrote a book *‘Aṣab al-‘ayn* (“Treatise about the Optic Nerve”).²

‘Alī Ibn ‘Isā Al-Kaḥḥāl (400 AH, 1010). Ibn Isa of Baghdad wrote an ophthalmic treatise which has been published under the title “Memorandum book of a tenth-century oculist”.³ He is thought to have studied with Ibn al-Tayyib.⁴

Albucasis (936–1013) (Al-Zahrawi) of Andalusia mentioned that in Baghdad, surgeons extracted cataracts with a hollow needle.⁵

Zahid Al-Ulama’ Abu Sa’ed Mansur Bin Isa (d. 460 AH, 1067) was a Christian physician from Kirkuk who wrote a book about the diseases and treatment of the eye.⁶

In 551 AH/1156, the poet Khāqānī of Shīrvān (Persia) travelled through Baghdad on his pilgrimage to Mecca and may have referred to cataract aspiration in Iraq in his poem *Tuḥfat al-‘Irāqayn* (A Present from the Two Iraqs), describing the treatment of a «cloudy fluid» (āb-i tārik) in the eye: “He came forward with a needle (mīl). Released from the eye the cloudy fluid. (then) drew (*sal kardan*) the fluid, quickly with skilful hand, out of every passage it could find.” This has been interpreted as the operation for cataract extraction by aspiration, which is plausible, but drainage of hypopyon also seems plausible.⁷

Abū al-Qāsim Hibat Allāh ibn al-Fadl was an oculist and poet born and raised in Baghdad who died 558AH/1163.⁸ He wrote two books: *Ta’aleeq Tibbiyah* (Medical Comments) and *Masa’il wa Ajwibataha Fil Tibb* (Questions and their answers in medicine).⁹

Radhiyy Ad-Din Ar-Rahbi, (534 AH-631 AH/ 1139 - 1232) an elite physician from the city of Ar-Rahba, Iraq, was listed by Wafai as an oculist.¹⁰

Rasheed Ud-Din Bin As-Suwari (d. 639AH/1242) was a Baghdadi physician specializing in medicine, ophthalmology, and herbal medicine, according to Wafai.¹¹

¹ ‘Usaybi’a 2017, p. 351, Usaybiya 1971, pp. 440-1.

² Wafai 2016, p. 7; Sajjādi 1990.

³ Wafai 2016, p. 17-18.

⁴ Wafai 2018, p. 165.

⁵ Albucasis 1973.

⁶ Wafai 2018, p. 162.

⁷ Savage-Smith 2022.

⁸ Usaibia 1971, p. 508-510.

⁹ Wafai 2018, pp. 246-247.

¹⁰ Wafai 2018, p. 250.

¹¹ Wafai 2018, pp. 251-252.

'Abdullāh Ibn Qāsim Al-Ḥarīrī Al-Ishbīlī Al-Baghdādī (d. 646 AH, **1248**) wrote “The End of Thoughts and the Joy of Vision” which was re-published in 1979.¹

In 1258, Baghdad was sacked by the Mongol leader Hulagu Khan.

Sa‘d (‘Izz al-Dawla) b. Manṣūr b. Kammūna (d. **1284**) of Baghdad was a Jewish philosopher and physician who wrote a book about eye diseases quoted by Íadaqa al-Shādhilī of Cairo (14th century). He was threatened with execution for criticizing Islam, but was saved by the governor of Baghdad. He converted to Islam in 1280.²

Between 1732 and **1735**, Regina Salomea Pilsztynowa, a woman oculist from Poland, explained she had learned from her oculist husband and “I gained some other useful information from another oculist, a Turk from Babylon” while in Istanbul.³

Lebanon (2nd century).

Philosopher Maximus of Tyre in the 2nd century CE wrote “When medical science comes to the rescue...to remove the blockage so as to uncover it and restore its outward passage....The misfortune of physical embodiment covers it over with a thick mist [ὑποκεχύσθαι, *hypokethysthai*], which confounds its powers of vision...”⁴

Syria (7th century-).

A bronze remnant of a cataract needle, 7.5 cm long, was found in Palmyra. It is probably from the early Islamic period (**7th century** or later), but could be from the late Byzantine period (pre-7th century). It was excavated from Palmyra ruins by Russian Baron Ustinov and purchased by S. Holth in Oslo in 1918/19.⁵

The description of cataract surgery by the Syriac author **Semon**, perhaps from the **9th century**, was related by Rhazes.⁶

Yūḥanna Ibn Ṣarabyūn (d. 322 AH, **935**) of Damascus wrote a general medical text *Practica* in Syriac, which had 11 chapters on ophthalmology.⁷

Ammar of Cairo, active about **1000**, performed cures along the Syrian coast.⁸

¹ Wafai 2016, pp. 23-24.

² Lev 2021, p. 99.

³ Konczacki 2002; Pilsztynowa 2021, p. 75.

⁴ Maximus 1997, p. 87.

⁵ Bliquez 1984; Holth 1919, item 23; Holth 1924.

⁶ Kahl 2015, pp. 44-6.

⁷ Wafai 2016, p. 40.

⁸ Meyerhof 1937, p. 36.

'Alī Ibn Ibrāhīm Ibn Bakhtyashu' Al-Kafartābī (d. 460 AH, **1067**) wrote “Anatomy of the Eye, Its Shape, and Treatment of Its Diseases” (*“Tashreeh Al-Ayn Wa Ashkalaha Wa mudawat A’lalahā”*). He was born in Kafartāb, Syria, and descended from a Christian family which included a physician of Jundishapur in 155 AH (776). 'Alī Ibn Ibrāhīm's father converted to Islam, and was also an ophthalmologist. 'Alī Ibn Ibrāhīm travelled to Yemen and to Egypt to practice ophthalmology, and he died in Cairo. Max Meyerhof mentioned him in the introduction to Ten Treatises on the Eye.¹

Kadiyy al-Dīn was an oculist who arrived in Damascus in 555/1160. His son was born in Jazīrat ibn `Umar (modern Cizre, Turkey), and the family also lived in Baghdad, and Egypt before arriving in Damascus.²

Shams Addin Al-Mutaww' Al-Kahhal. Syrian physician, mentioned by Abi Usaybi'ah , listed as an oculist by Wafai, and lived during the rule of Abi Al-Hakam Abdullah Bin Al-Mughaffar (549 AH, **1154/55**).³

Sadīd al-Dīn ibn Raqīqa was born in Hīnī (Heeneh, Syria) in 564/1168, and grew up there (d. **1237**, 634AH). He was skilled in ophthalmology and “in treating eye diseases, performed many operations with the iron. In addition, he extracted cataracts from the eyes of many patients, who, thanks to his skill, regained their eyesight. The instrument he used was hollow and curved, so that, after the incision, it was better able to draw out the water and the operation became more effective.”⁴ The term used to describe his hollow needle, *Al-Miqdah Al-Mujawwaf*, is the same used to describe the needle of Ammar.⁵ He treated numerous leaders, working in Khalāt and Māyūfāriqīn, practicing in Damascus from 632/1235 to 635/1238.⁶

Al-Sharīf the Oculist, also known as Burhān al-Dīn Abū al-Fadl Sulaymān, came from Egypt to Syria. He served Saladin, the sultan who moved from Egypt to Syria in 1174.⁷

Rashīd al-Dīn 'Alī ibn Khalīfah (1183-1219) was born in Aleppo in 579/1183, but grew up in Cairo.⁸ He was the paternal uncle of Usaybiah. Ibn Khalīfah's father (Usaybiah's grandfather) had moved to Cairo in the service of Saladin, when he had conquered Egypt. The grandfather had known the oculist Abū l-Hajjāj Yūsuf in Damascus, and met the oculist again upon his arrival in Egypt.⁹ In Cairo, the oculist Abū l-Hajjāj Yūsuf was working at a hospital near the flea markets in lower Cairo (not the later hospital at the fort), and he was one of the teachers of Rashīd al-Dīn 'Alī ibn Khalīfah. The latter studied the books of Aristotle, and returned to Syria in 597/1200 at the age of about 20 years.¹⁰ He worked at the Great Nuri Hospital in Damascus, where al-Dakhwar worked. He studied

¹ Wafai 2016, p. 19-20; Wafai 2018, p. 162-5.

² Usaibiah 1971, p. 842.

³ Wafai 2018, p. 246.

⁴ Usaibiah 1971, pp. 887-9. Also, see: Pansier 1903, p. 56.

⁵ Wafai 2018, p. 251.

⁶ Usaibiah 1971, pp. 887-9.

⁷ Usaibiah 1971, p. 829.

⁸ Usaibiah 2020, p. 283. Pansier 1903, p. 56.

⁹ Usaibiah 2020, p. 283-4.

¹⁰ Usaibiah 2020, p. 284.

Arabic under al-Kindī, composed Persian poetry, and spoke Turkish. In 609/1213, one of the sultan's eunuchs had bilateral eye disease, and Rashīd al-Dīn 'Alī ibn Khalīfah was the only oculist who could cure him so that he could eventually ride a horse again. People regarded this cure as miraculous, and the sultan gave the oculist robes. The oculist worked at the sultan's palace curing eye diseases so successfully that the sultan asked him to accompany him on all his travels. ibn Khalīfah tried to remain in Damascus, but the sultan ordered him to enter his service on a salary in 609/1213.¹

Sadīd al-Dīn al-Qāsim was born in 575/1179 in Cairo, and was the father of Usaybiah, and the brother of the oculist ibn Khalīfah who died in 1219. He worked at the Great Nuri Hospital in Damascus on salary. He performed surgery, but only when necessary. One of his patients wrote a poem praising him: "O Christ of our time! So many, blind from birth, became seeing again through you, this one, that one..." He worked in the citadel of Damascus, and at the hospital until his death in 649/1251.²

'Hakīm al-Zamān 'Abd al-Mun'im al-Jilyāni was a medical doctor and ophthalmologist who came from Andalusia, but lived in Syria until his death in 600/1200. He was also a poet, and was interested in chemistry. His son, 'Abd al-Mu'min ibn 'Abd al-Mun'im, was also a poet, and was an oculist to the rulers, and died in Edessa in about 620/1220.³

Abul Heddschadsch Jusuf ben Heidera ben el Hofein Redhi en-Din el Rahabi (1139-1223) was known in Damascus as an oculist. He refused to see patients if a visit to their home required climbing stairs (Pansier 1903, p. 56).

The oculist known as **al-Dakhwar**, (1169 CE – 628 AH/ 1230 CE, taught at the Great Nuri Hospital in Damascus, as well as in Egypt.⁴ His full name was Muhadhdhab al-Dīn 'Abd al-Rahīm ibn 'Alī.⁵ He was born and grew up in Damascus, and his father and brother were also oculists. He studied Arabic with al-Kindī.⁶ Al-Dakhwar recommended that the sultan be bled, advising that if not done, he would bleed on his own. When the sultan subsequently experienced nosebleeds, he believed al-Dakhwar to be the best physician.⁷ Al-Dakhwar also determined that the color of a slave girl's urine arose not from the condition causing her pain, but from the henna with which she was dyed.⁸ Once the sultan in Damascus had imprisoned a judge who was a friend of al-Dahwar. The latter advised the sultan's concubine to tell him when they lay in bed that she had had a dream that he was unjust towards a judge. She carried out this plan, and the sultan showed mercy on the judge.⁹ Usaybi'ah studied under al-Dakhwar at the hospital. In 622 / 1225 CE, as he temporarily left Damascus following a ruler to the east (to Baghdad), he dedicated his house to be a college to study medicine. Towards the end of his life, he had difficulty

¹ Usaybiah 2020, p. 283-5.

² Usaybiah 2020, pp. 285-6.

³ Usaibiah 1971, p. 797-8. Pansier 1903, p. 54.

⁴ Dajani 1989. Pansier 1903, p. 56.

⁵ Usaybiah 2020, p. 278.

⁶ Usaybiah 2020, p. 278.

⁷ Usaybiah 2020, p. 279.

⁸ Usaybiah 2020, p. 279.

⁹ Usaybiah 2020, pp. 278-81.

speaking, so he would communicate with his pupils by thinking of the shortest possible word, or by writing on a slate.¹

Ibn al-Nafis (1213-) was a polymath and oculist, who trained at the Nuri Hospital in Damascus before his move to Egypt in **1236**.²

Khalifah Ibn Abī Al-Maḥāsin Al-Ḥalabī (d. 656 AH, **1256**) of Aleppo wrote “Sufficient Knowledge in Ophthalmology”.³ He once operated for cataract on a one-eyed man. He also operated for cataract on a predatory bird owned by his servant. However, the bird’s head movement after the surgery caused the cataract to rise again.⁴

Al-Qaysī (d. 657 AH, 1259) was an oculist who was raised in Damascus, but had moved to Egypt by the **1240s** (see Egypt).

The historian Ibn al-‘Adīm (d. 660/**1262**) of Aleppo reported that the author al-Tīfāshī (d. 1253) had both eyes couched, and could see and write.⁵

Shams al-Dīn Abū al-Fadl ibn Abū al-Faraj the oculist, known as "The Obedient," lived in Damascus at the time of the oculist and medical historian **Ibn Abi Usaibia** (1203-**1270**), who was from Damascus, and worked there and in Cairo.⁶

Ṣalāḥ Al-Dīn Al-Kaḥḥāl Al-Ḥamwī (d. 696 AH, **1296**) is the usual name given to the Muslim ophthalmologist of Hama, Syria who wrote “The Light of the Eyes and the Collector of the Arts”.⁷ Savage-Smith writes that the correct name of this doctor is Abū Zakarīyā’ Yaḥyā ibn Abī al-Rajā’.⁸ He cited a teacher named Al-Ḥakīm Nu’mān.⁹

Abdassayid ben al Muhadhdhab Ishak ben Yahya (Baha-ed-Din-Abdassayyed ben al-Muhadhdhab Ishak ben Yahia) was a Jewish oculist in Damascus who died in **1315**.¹⁰

Badr al-Din Abu‘Ali al-Kahhal was an oculist in Damascus, who died at the age of 100 in 726 H (**1326**). As his grandfather and father had been oculists, their dynasty could have begun in about 1175. When Badr al-Din became old, his hand became unsteady. He taught the profession to his son Muhammad.¹¹

Shihab al-Din Ahmad became the “head oculist and surgeon” after he “read and apprenticed” with Badr al-Din of Damascus (d. **1326**).¹²

¹ Usaybiah 2020, pp. 281-2.

² see Egypt, Savage-Smith 1992.

³ Wafai 2016, p. 25-26; Blodi 1993, pp. 209-230.

⁴ Saad 2022.

⁵ Savage-Smith 2022.

⁶ Usaibia 1971, p. 795, 838. Pansier 1903, p. 57.

⁷ Wafai 2016, pp. 33-34. Pansier 1903, pp. 56-7.

⁸ Savage-Smith 2022.

⁹ Wafai 2016 p. 33-34.

¹⁰ Koren 1973, pp. 3, 21.

¹¹ Ibrahim 2007.

¹² Ibrahim 2007.

Ismail ibn al-‘Abbadī al-Kahhal was an oculist in Damascus who inspired his neighbor Zayn al-Din to become an oculist before 1300.¹

Muhyi al-Din Ṭahir al-Kahhal was an oculist who trained the Damascene Zayn al-Din before 1300.²

Zayn al-Din Ayyub ibn Ni‘mah al-Nabulsi was an oculist in Damascus, who died 726 H (1330). After becoming familiar with his oculist neighbor, he determined to follow that profession. He studied under Muhyi al-Din for a short time, and then grew rich from his own practice. When Ghazan Khan attacked Damascus in 700 H (1300), Zayn al-Din fled to Cairo, where he practiced for 22 years. He accompanied the sultan on the hunt. After his return to Damascus, he taught many students.³

Asad al-Yahūdī (Usayda) was a Jewish physician, oculist, and surgeon who treated fractures in Cairo, Hama, Safed, Damascus, and Aleppo and died after the year 1330.⁴

‘Abd al-Sayyid b. Ishāq b. Yaḥyā al-Ḥakīm al-Faḍl Bahā’ al-Dīn b. al-Muhadhdhab, al-Ṭabīb al-Kaḥḥāl was a Jewish oculist in Damascus who worked at the al-Bimaristan al-Nuri hospital. He converted to Islam in 1302 and died in 1315.⁵

Abd Al-Masih Al-Kahhal Al-Halabi (died 1186 AH/1773) of Aleppo wrote “Completion of Ophthalmology”, which has 26 references from the eighth century to the 14th century.⁶

In 1860, Druze oculist **Hamzah al-Kahhal** participated in an 1860 massacre of Christians in Damascus. He was later executed for this act.⁷ Most of the 20 oculists in Damascus were Druze.⁸

Yemen (7th century).

Zainab was a woman physician of the Banū Awd whom Usaybiya lists as “from around the time of Islam” (7th century). Zainab practiced general medicine, but was especially experienced in treating eye diseases and injuries. She was remembered for using a collyrium to treat ophthalmia.⁹

‘Alī Ibn Ibrāhīm Ibn Bakhtyashu’ Al-Kafarṭābī (d. 460 AH, 1067) wrote an ophthalmic treatise, and travelled to Yemen (see Syria).

¹ Ibrahim 2007.

² Ibrahim 2007.

³ Ibrahim 2007.

⁴ see Egypt; Lev 2021, p 67.

⁵ Koran 1973, pp. 3, 21; Lev 2021, p. 298.

⁶ Wafai 2018, pp. 207-208.

⁷ Liebreinz 2014.

⁸ Liebreinz 2014.

⁹ Usaybiya p. 1971.

Palestine and Israel (980-).

Abū 'Abdullāh Moḥammad Ibn Sa'īd Al-Tamīmī Al-Maqdesī (d. 369 AH, **980**) was a physician who initially practiced in his home town of Jerusalem. He later moved to Egypt. He wrote “Treatise about the Essence of Ophthalmia, Its Types, Causes, and Treatment”.¹

‘**Ammār** ibn ‘Alī Mawṣilī, of Mosul, who practiced in Cairo in the early 11th century, manufactured a hollow needle for cataract aspiration, and first used it on a Christian in Tiberias.² In one manuscript, the case was at Baghdad rather than Tiberias.

A Jewish resident of Acre was an oculist’s aide (Rubin 2021, p. 44-5). Moreover, his brother Abu Zichri b. Eliyahu (active 1198-**1230**) served as an oculist to the sultan in Egypt and also practiced in Jerusalem.³

Benevenutus Grassus, who ultimately practiced in Italy and at Montpellier in the period about 1200-**1250**, administered “Jerusalem pills” and described himself as “Benevenutus of Jerusalem”.⁴

'Alī Ibn 'Abdul Karīm Ibn Ṭurkhan Al-Ḥamwī Al-Ṣafadī (720 AH/**1320**) lived in the city of Safed, and wrote *Al-Qanoon fi Tib El-Oyoon*, The Law In Ophthalmology.⁵

Asad al-Yahūdī (Usayda) was a Jewish physician, oculist, and surgeon who treated fractures and practiced in Safed. He died after **1330**.⁶

In **1551**, **Lifa**, “whose business is curing eyes”, according to a Muslim court, was a female Jewish oculist in Jerusalem, and sold a house to the son of a judge.⁷

Kamāl b. Mūsā. A Jewish oculist and judge from Jerusalem who practiced in a rented store. He received a government salary as the head physician of Jerusalem. In **1571**, he was absent for some time.⁸

Shahāda b. Abraham practiced medicine in the Jewish neighborhood in Jerusalem, even before completing his training. In 1577, a *qadi* (magistrate) forbade him to practice surgery and ophthalmology until he completed lessons on theory. From 1581-3, Shahāda is referred to as al-Kahhāl (oculist), suggesting he did complete the training.⁹

¹ Wafai 2016, pp. 11-12.

² Ammar, Meyerhof 1937, pp. 47-8.

³ see Egypt; Rubin 2021, p. 44-5.

⁴ Grassus and Wood 1929, pp. 75-9.

⁵ Wafai 2018, p. 199.

⁶ see Egypt; Lev 2021, p 67.

⁷ Guthrie 2013.

⁸ Lev 2021, p. 86, 288, 366.

⁹ Lev 2021, p. 105.

In **1646** (AH 1058), records from the Jerusalem Al-Quds Sharia Court indicate that women practiced as *kahalas* (oculists).¹

In **1900**, **Dr. Cant** of Jerusalem performed “the operation for cataract in the right eye” of Dr. Blyth, the Anglican Bishop in Jerusalem, at the Ophthalmic Hospital of the English Order of the Knights of St. John of Jerusalem. Dr. Cant had trained with Dr. Nettleship of London.²

References.

- [Albucasis] **Abū al-Qasim Khalaf ibn ‘Abbās al-Zahrawī**, Spink (trans.). Albucasis on surgery and instruments. Berkeley, Univ. of Calif. 1973. **Ali A.** Islamic Dynasties of the Arab East: State and Civilization During the Later Medieval Times. MD Publications Pvt. Ltd.; 1996. **[al-Qaisī] Fath-ad-Dīn Aḥmad Ibn-‘Utmān al-Qaisī**, Bischoff HD. Das Ergebnis des Nachdenkens über die Behandlung der Augenkrankheiten von Fath ad-Dīn al-Qaisī: Übersetzung des arabischen Textes, Kommentar und Indices. Frankfurt am Main: Lang; 1988: 56-7. **‘Ammār ibn ‘Alī Mawṣilī**, Meyerhof M. Las Operaciones de catarata ‘e ‘Ammar i’n ‘Alī al-Mawsili. Barcelona: Laboratorios del Norte de Espana, 1937:52-3. **Bagley AM.** Roman children in the early empire: a distinct epidemiological and therapeutic category? (Doctoral dissertation, University of Birmingham). 2017: 231.
- Behrens-Abouseif D.** The image of the physician in Arab biographies of the post-classical age. Der Islam; Zeitschrift für Geschichte und Kultur des Islamischen Orients. 1989;66:331. **Bliquez LJ.** Two lists of Greek surgical instruments and the state of surgery in Byzantine times. Dumbarton Oaks Papers. 1984;38: 187-204. **Blodi FC, Rademaker WJ, Rademaker G, et al.** The Arabian Ophthalmologists. Compiled from original texts by J. Hirschberg, J. Lippert and E. Mittwoch. Riyadh: King Abdulaziz City for Science and Technology, 1993:152-302. **Blomstedt P.** Cataract surgery in ancient Egypt. Journal of Cataract & Refractive Surgery. 2014; 40(3):485-9. **Cotter W.** Miracles in Greco-Roman antiquity: A sourcebook. London: Psychology Press; 1999.
- Dajani AM.** Medical Education in Islamic Civilization. Journal of the Islamic Medical Association of North America. 1989 Oct 1;21(4). **Gadelrab SS.** Medical Healers in Ottoman Egypt, 1517–1805. Medical History. 2010 Jul;54(3):365-86. **Geller MJ.** Ancient Babylonian Medicine: Theory and Practice. Oxford: Wiley-Blackwell. 2010: 58-184. **Goitein SD.** XIII. The Working People Of The Mediterranean Area During The High Middle Ages. In: Studies in Islamic History and Institutions 2010 Jan 1 (pp. 255-278). Brill.
- Grant RL.** Antyllus and his medical works. Bulletin of the History of Medicine. 1960 Mar 1;34(2):154-74. **Grant RL.** Antyllus, the elusive surgical genius of antiquity: an analysis of his writings. Surgery. 1961 Sep 1;50(3):572-8. **Grassus B, Wood CA** (translator). Benevenutus Grassus of Jerusalem. De oculis eorumque egritudinibus et curis: translated with notes and illustrations from the first printed edition, Ferrara, 1474 A.D. Stanford, Stanford University Press, 1929, pp. 39-40. **Guo L.** The Performing Arts in Medieval Islam. Leiden: Brill, 2012. **Guthrie S.** Fertility, Health, and Childcare. In: Arab Women in the Middle Ages: private lives and public roles. New York : Saqi, 2013. **Hirschberg J, Blodi F** (trans.). The History of Ophthalmology. Vol. 2. The Middle Ages; The Sixteenth and Seventeenth Centuries. Wayenborgh. 1985. **Holth S.** “Greco-Roman and Arabic bronze instruments and their medico-surgical use” Videnskapsselskapets Skrifter. I. I. Maternatisk-Naturvidenskabelig. Klasse, Kristiana. 1919, No. 1. pp. 3-20. Archive.org **Holth S.** An Arabic bronze needle from antiquity for depression of cataract. Br J Ophthalmol. 1924; 8(6): 266–268. **Hüner NI.** Travelling within the Empire: Perceptions of the East in the historical narratives on Cairo by Mustafa Āli and Evliya Çelebi. In: Agai B (ed.). Venturing beyond borders. Reflections on genre, function and boundaries in Middle Eastern travel writing. Würzburg. Verlag Würzburg. 2016; pp. 77-100. **Ibrahim M.** Practice and Reform in Fourteenth-Century Damascene Madrasahs. Mamluk Studies Review. 2007; XI(1): 69-82. **Jouanna J.** Allies N (trans.). Egyptian Medicine and Greek Medicine. In: Greek Medicine from Hippocrates to Galen: Selected Papers. Leiden: Brill, 2012:15-6. **Kahl O.** The Sanskrit, Syriac and Persian sources in the Comprehensive book of Rhazes. Leiden: Brill, 2015: 44-6. **Konczacki JM, Aterman K.** Regina Salomea pilsztynowa, ophthalmologist in 18th-century Poland. Survey of ophthalmology. 2002 Mar 1;47(2):189-95. **Koren N.** Jewish physicians : a biographical index. Jerusalem: Israel Univ. Press, 1973. **Leffler CT, Schwartz SG, Peterson E, Busscher J.** Cataract couching and the goat's eye. Acta ophthalmologica. 2018 Nov;96(7):755-6.
- Leffler CT, Samara WA, Hadi TM, Salman A, Khan FA.** Glaucoma in the Medieval Arabic World. In: Leffler CT (ed.) The History of Glaucoma. Wayenborgh. 2020: 47-73. **Leffler CT, Klebanov A, Samara WA, Grzybowski A.** The history of cataract surgery: from couching to phacoemulsification. Annals of Translational Medicine. 2020 Nov;8(22). **Leffler CT, Schwartz SG, Peterson E, Couser NL, Salman AR.** The first cataract surgeons in the British Isles. American journal of

¹ Sonbol 2003.

² Egyptian Gazette, April 12, 1900, p. 5.

ophthalmology. 2021 Oct 1;230:75-122. **Lev E.** Jewish Medical Practitioners in the Medieval Muslim World. 2021. Edinburgh University Press. **Liebrezn B.** The Social History of Surgery in Ottoman Syria: Documentary Evidence From Eighteenth-Century Hamah. *Turkish Historical Review*. 2014 Apr 30;5(1):32-58. **Marganne MH.** Inventaire analytique des papyrus grecs de médecine. Genève: Droz, 1981:7-267. **Marganne MH.** L'ophtalmologie dans l'Égypte gréco-romaine d'après les papyrus littéraires grecs. New York: E.J. Brill, 1994:120-1. **Maximus of Tyre**, Trapp MB (trans.). The Philosophical Orations. Oxford: Clarendon Press, 1997. **Pansier P.** Collectio ophtalmologica veterum auctorum. Paris: Bailliere. 1903-1933. **Pilsztynowa RS, Rocznik W** (trans.). My life's travels and adventures: an eighteenth-century oculist in the Ottoman Empire and the European hinterland. New York: Iter Press, 2021: 75. **Rubin J.** Learning In A Crusader City: Intellectual Activity And Intercultural Exchanges In Acre, 1191-1291. Cambridge Univ Press, 2021: 44. **Saad MN.** Ophthalmological instruments of Al-Halabi fill in a gap in the biomedical engineering history. *World J Methodol*. 2022 Jan 20; 12(1): 1–19. **Sajjādi S.** Čašm-Pezeškī, ophthalmology. *Encyclopaedia Iranica*. 1990. Vol. V, Fasc. 1, pp. 39-44. **Savage-Smith E.** Fath al-Din Al-Qaysi."Das Ergebnis des Nachdenkens über die Behandlung der Augenkrankheiten von Fath al-Din al-Qaisi". Edited by Hans-Dieter Bischoff (Book Review). *Bulletin of the History of Medicine*. 1992; 66(2):296. **Savage-Smith E.** Could Medieval Islamic Oculists Remove Cataracts? The views of a fourteenth-century Egyptian sceptic. *Suhayl. International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation*. 2022 Dec 21:7-41. **van Schevensteen AFC.** Les oculistes ambulantes dans les provinces Belges aux XVII^{me} et XVIII^{me} siècles. Bruxelles. Goemaere Imprimeur du Roi. 1924. Also in: *Memoires Couronnes et Autres Memoires Publies par L'Academie Royale de Medecine de Belgique*. Tome XXII. Bruxelles. 1926. pp. 3-73. **Schevensteen AFC.** Quelques ambulants a Anvers a la fin du XVI^e Siecle. Communication faite au Vie Congres international de l'Histoire de la Medecine. Leyden-Amsterdam. Anvers 1929, vol 8. p. 11. **Sonbol A.** Women in Sharia courts: A historical and methodological discussion. *KADER Kelam Araştırmaları Dergisi*. 2003;2(2).

Starodubcev T. Between iconographic patterns and motifs from everyday life. The scene of an eye surgery performed by Saint Colluthos. *Zograf*. 2018(42):1-24. **(Ibn Abi) Usaibia**, Kopf L (trans.) *History of Physicians*. 1971. Tertullian.org

(Aḥmad ibn al-Qāsim Ibn Abi) Uṣaybi'ah, Cockrell HS. Anecdotes & antidotes: a medieval Arabic history of physicians: a new translation. New York: Oxford University Press, 2020. **[Usaybia] Ibn Abi 'Uṣaybi'a.** *History of Physicians*. Translated from the Arabic by Dr. L. Kopf in 1971. With partial annotations by Dr. M. Plessner. Paris: Alessi, 2017. **Von Staden H.** Herophilus - the art of medicine in early Alexandria. Cambridge: Cambridge University Press 1989: 6-570. **Wafai MZ.** Ophthalmologists of the Medieval Islamic World. *International Congress on History of Medicine in Muslim Heritage*. October 2016. **Wafai MZ, Hassan Husni At-Tayyan H** (ed.). *Al-Kahhalun Al-'Arab wal Muslimun wa Atharuhum fi Tatawir Tib Al-Uyun*. [Contributions of Arab and Muslim Oculists to Ophthalmology]. Kuwait. 2018 (1439 AH). Al-Majlis Al-Watani Lil Thaqa wal Funoon Wal Adab [The National Council for Culture, Arts, and Literature].

2. A Chronology of Oculists and Cataract Surgeons in Europe.

Christopher T. Leffler, MD, MPH.¹

Countries are listed by date of first eye specialist within the country: Greece 400 BCE; Italy 25BCE; Turkey 100 CE; Serbia 1st c; Spain 150 CE; France 3rd cent; Albania 286; Belgium 476; Bulgaria 600; Austria 1326; Croatia 1330; Czechia 1330; Ukraine 1350; Switzerland 1384; Portugal 1434; Slovakia 1469; Hungary 1471; Estonia 1513; Königsberg (Kaliningrad) 1573; Romania 1615; Slovenia 1616; Latvia 1645; Lithuania 1679.

Greece (400 BCE).

Morsimus (Μορσίμος), a tragic poet and the son of Philocles (a contemporary of Euripides, d. 406 BC), was said to also be an oculist by Aetius (“*medicus ocularius atheniensis*”).

Scholars have assumed the poet and the oculist were one and the same (Smith 1850, vol. II, pp. 1113-4; Pansier 1905).

Plato (d. 347 BCE) was stated by Usaybia to have left behind children and family specializing in 6 areas of medicine, including Sergius, who specialized in ophthalmology. The other areas were diagnostics, dietetics, phlebotomy and cauterization, treatment of wounds, and setting broken bones (Usaybia 1971, p. 48).

In the sanctuary of Asklepios at Epidaurus, from a stele dated to about 350 BCE: “Ambrosia from Athens, blind of one eye. She came as a suppliant to the god. As she walked about in the Temple she laughed at some of the cures as incredible and impossible, that the lame and the blind should be healed by merely seeing a dream. In her sleep she had a vision. It seemed to her that the god stood by her and said that he would cure her, but that in payment he would ask her to dedicate to the Temple a silver pig as a memorial of her ignorance. After saying this, he cut the diseased eyeball and poured in some drug. When day came she walked out sound.”(Inscriptiones Graecae 4.1.121–122: Stele 1.4; Cotter 1999, p. 17; Hamilton 1906, pp. 13-18).

Another inscription from this stele at Epidaurus dated to 350 BCE reads: “A man came as a suppliant to the god. He was so blind that of one of his eyes he had only the eyelids left—within them was nothing, but they were entirely empty. Some of those in the Temple laughed at his silliness to think that he could recover his sight when one of his eyes had not even a trace of the ball, but only the socket. As he slept a vision appeared to him. It seemed to him that the god prepared some drug, then, opening his eyelids, poured it into them. When day came he departed with the sight of both eyes restored.”(Inscriptiones Graecae 4.1.121–122: Stele 1.9; Cotter 1999, p. 17)

Another inscription from Epidaurus in 350 BCE reads: “Alcetas of Halieis. The blind man saw a dream. It seemed to him that the god came up to him and with his fingers opened his eyes, and that he first saw the trees in the sanctuary. At daybreak he walked out sound.”(Inscriptiones Graecae 4.1.121–122: Stele 1.18; Cotter 1999, p. 18)

A final inscription from Epidaurus of 350 BCE reads: “Hermon of Thasus. His blindness was cured by Asclepius. But, since afterwards he did not bring the thank-offerings, the god made him blind again. When he came back and slept again in the Temple, he [sc. the god] made him well.”(Inscriptiones Graecae 4.1.121–122: Stele 2.22; Cotter 1999, p. 18)

In the 3rd century BCE, Phylarchus wrote that Asclepius was struck by lightning because he had restored the sight to the blinded sons of Phineus, as a favor to their mother Cleopatra, daughter of Erechtheus (Cotter 1999, p. 29).

The philosopher Chrysippus of Soli (c. 279 – c. 206 BCE) mentioned couching of cataracts.

A bronze cataract needle from the “early imperial period” (c. 27 BCE to 150 CE) was found on Milos, an island in the Greek region of Achaea. There is an olivary terminal at the other end. Athens

¹ This chapter is cited: Leffler CT. A Chronology of Oculists and Cataract Surgeons in Europe. In: Leffler CT (ed.). Biographies of Ophthalmologists from around the World: Ancient, Medieval, and Early Modern. 2024. Dept. of Ophthalmology, Virginia Commonwealth University, Richmond, VA.

national museum. Length 15 cm. Length of needle distal to wider ridges 3.4 cm. (Künzl 1983, pp. 40-41, fig 10, item 4; Jackson 1986; Hibbs 2018; Milne 1907, p. 176; Hassel-Künzl 1980, p. 413).

A silver cataract needle of the Hellenistic-Roman period (c. 146 BCE to 180 CE) was found on the Island of Cos. The needle has a globular thickening near tip, perhaps to prevent excessive insertion. It was acquired by Meyer-Steineg in Cos, in the early 1900s. (Meyer-Steineg 1912, p. 45, Plate VIII, Item 10; Hassel and Künzl 1980).

From just before the first century CE, through the second century, multiple medical oculists with Greek family names are identified in Rome (Cacciapuoti 2017).

An inscription of an oculist from the Roman period was found at Patras (Feugere 1988).

An inscription from Epidaurus dated to the 2nd century CE reads: “To Valerius Aper, a blind soldier, the god revealed that he should go and take the blood of a white cock along with honey and compound an eye salve and for three days should apply it to his eyes. And he could see again and went and publicly offered thanks to the god.” (Inscriptiones Graecae 14.966; Cotter 1999, p. 18)

Amirdovlat Amasiati travelled around Macedonia in the 1450s (see Turkey).

The Italian anatomist Alessandro Benedetti (c. 1450-1512) spent 16 years practicing in Morea in southern Greece and in Crete. He found that in Greece, there were few oculists and physicians because the Turks had destroyed the Greek educational system (Lind 1975, p. 70).

Italy (25 BCE).

A funerary inscription of P. Iulius P. l. Protus, a “*medicus ocularius*” was found at Aquileia, and was dated to roughly 25 BCE (Nutton 1972, n. 6; Gummerus 1932, p. 77, n. 291).

Empress Livia Drusila (d. 29 CE) had a *medicus ocularius* in her household (Alonso 2021; Gummerus 1932, p. 21, n. 15; Cacciapuoti 2017, n. 2).

An inscription presumed to have been found in Rome reads “Mantias, eye doctor of Tiberius Caesar Augustus, lived 27 years” (Mantias Ti[berii] Caesaris Aug[usti] medicus ocular[ius] vix[it] ann[os] XXVII) (Rothenhofer 2018). Tiberius reigned until 37 CE.

Thyrius Ti(beri) Caesaris Aug(usti) ser(vus) Celadianus was a “*medicus ocularius*” and slave of the emperor Tiberius (d. 37 CE) in Rome. Thyrius died at the age of 30 years and had a Greek family name (Gummerus 1932, p. 28, n. 57; Cacciapuoti 2017, n. 4).

P(ublius) Colius P(ubli) l(iberto) Philogenes was a “*medico oculario*” with a Greek family name in Rome, between 50 BCE to 50 CE (Gummerus 1932, p. 35, n. 106; Cacciapuoti 2017, n. 6).

D(ecimus) Colius D(ecimi) l(ibertus) Arsaces was a “*medicus ocularius*” who practiced in Rome between 25 BCE to 25 CE, and is believed to have a Greek or Persian family name (Nutton 1972, p. 20, n. 27; Cacciapuoti 2017, n. 17).

Celsus (ca. 25 BCE – 50 CE) was an encyclopedist who wrote in Latin and described cataract surgery in great detail. Celsus mentioned oculists named Attalus, Cleon, Theodotus, and Eulpides (who was a contemporary).

C(aio) Rutilio Eutheto was a “*medico oculario*” who lived between 27 BCE to 68 CE in Rome, and had a Greek family name (Gummerus 1932, p. 36, n. 110; Cacciapuoti 2017, n. 10).

Gaius Julius Callistus, a freedman under Caligula (d. 41 CE) and Claudius (d. 54 CE) had among his slaves several oculists (Friedlander 1908, p. 171).

C(aius) Numitorius C(ai) l(ibertus) Nicanor / natione T(h)ebaeus was a “*medicus ocularius*” in Rome in the year 47 CE. His family name was Greek (Cacciapuoti 2017, n. 1).

P(ublius) Attius Atimetus was a “*medicus ab ocul(is)*” who lived in Rome between 1 CE and 70 CE and had a Greek family name (Nutton 1972, p. 20, n. 25; Cacciapuoti 2017, n. 14).

Ti[berio] Claud[i]o was a “*medic[o] o[cul]ario*” in the first half of the first century in Rome (Gummerus 1932, p. 28, n. 58; Cacciapuoti 2017, n. 5).

M(arcus) Geminius M(arci) l(ibertus) Felix was a “*medicus oculariu(s)*” with a Latin family name, who lived in Rome in the first half of the first century (Gummerus 1932, p. 39, n. 124; Cacciapuoti 2017, n. 11).

C(aio) Terentio Pisto was a “*medico oculario*” who grew rich in the first century in Rome, and died at the age of 87 years. He had a Greek family name (Gummerus 1932, p. 22, n. 25; Cacciapuoti 2017, n. 3).

Q. Clodius Niger was a “*medicus ocularius*” who lived at Vicetia in the first century (Gummerus p. 72, n. 272; Pansier 1905, p. 625).

M(arcus) Loll[ius ---] / Primu[s ---] was a “[*m*]ed[i]cus o[cul](arius?)” who lived in first century Rome, and had a Latin family name (Cacciapuoti 2017, n. 13).

Numitorius Asclepiades was a “*medicus ocular(ius)*” whose funerary inscription was found at Verona, and is dated to 27 BCE-100 CE (Gummerus 1932, p. 73, n. 274; Pansier 1905, p. 480).

Another “*medicus ocul[ari]us*” had a funerary inscription of the first century in Rome, but the name of the oculist has been lost (Nutton 1972, p. 17; Cacciapuoti 2017, n. 18);

Marcus Valerius Martialis (Martial) wrote in Rome between 86 and 103 a satirical epigram: “You are now a gladiator; you were previously an oculist You used to do as a doctor what you now do as a gladiator.” (Martial 1897, p. 387)

An epitaph from Assisi in the early Principate, perhaps 1st century, records that an oculist had formerly been a slave: “P. Decimius Eros Merula, freedman of Publius, a clinical physician, surgeon, and ophthalmologist [*medicus clinicus chirurgus ocularius*]...He gave HS 50,000 for his freedom; he gave to the res publica HS 2,000 for his entry into the seviri; he gave HS 30,000 to erect statues in the Temple of Hercules; and he gave HS 37,000 to lay out streets for public use. On the day before he died, he left (the gift?) of an estate worth HS [800,000] (to the town?)” (Gummerus 1932, p. 66, n. 247; Easton 2019)

Several cataract needles were found among the remains at Pompeii, dating from the volcanic explosion of Vesuvius in 79 CE: A) A bronze-handled needle, with an olivary terminal at one end. Found with skeletons in the Palaestra. Length 7.3 cm. Length of needle distal to ridges 1.5 cm. (Lengths based on listing of

scale in Künzl 1983 as 1:1. Künzl 1983, p. 14, fig. 4, item 5, 2nd from right; Jackson 1986; Hibbs 2018). This instrument set also held: 1) two bronze instruments with olivary terminal at one end and other end (which could have been a needle or probe) broken off (Künzl 1983, p. 13, fig. 3, items 5,6); and: 2) a bronze handle with both ends broken off, which could have been needles or pointed cautery (Künzl 1983, p. 14, fig. 4, item 6). The needle is discussed by Künzl (Künzl 1983, pp. 12-15). B) A cataract needle from Pompeii was found in a cylindrical probe box with six other probes and needles (Naples, Mus. Naz., Inv. no. 116444A; Jackson 1986). C) A cataract needle is described as Pompeii Antiquarium, Inv. no. 10123, from Pompeii, Region II, Insula II, 'vicino al tempio', 1953 (Jackson 1986).

Pliny the Elder (23/24 – 79 CE) who perished at Pompei was familiar with cataract surgery (Leffler 2018, Leffler 2020).

C. Cassius Philota, *medicus Augusti ocularius*, was a medical oculist and court physician serving the emperor in Rome, perhaps Tiberius Claudius or Nero. He was probably born a foreigner and acquired Roman citizenship (Alonso 2021).

A complete cataract needle, said to be from Italy, dates from the 1st or early 2nd century CE. It is made of copper alloy, and has an olivary probe on the other end, and a spirally-cut stem. Length 14.2 cm. Purchased by British Museum in 1968 from an antiquities dealer (Jackson 1986, item no. 23).

Cn(aeus) Domitius Demetrius was a “*medico oculario*” in Rome, with a Greek family name, in the first or second century (Gummerus 1932, p. 36, n. 107; Cacciapuoti 2017, n. 7).

Phasis was a “*medicus ocular(ius)*” and slave with a Greek family name who lived in Rome between 50-150 CE, and died at age 17 years, the age of majority (Gummerus 1932, p. 48, n. 169; Cacciapuoti 2017, n. 15).

Q(uintus) Fabius Cladus was a “*medicus ocularius*” in Rome in the first or second century, and had a Greek family name (Gummerus 1932, p. 39, n. 128; Cacciapuoti 2017, n. 12).

Q. Colius Q. libertus Nicomedes was a “*medicus ocularius*” in Fanum Fortunae in the first half of the 2nd century (Gummerus 1932, p. 68, n. 252; Pansier 1905, p. 527).

The inscription of Helvius Iola “*medicus ocularius*” found at Formiae is dated to the first or second century (Pansier 1905, p. 565; Gummerus 1932 p. 62, n. 220).

Latinus Hermes was a “*medicus ocularius*” who lived for 40 years, according to the inscription found at Bononia (Bologna), dated to the 1st or 2nd centuries (Pansier 1905, p. 619; Gummerus p. 64, n. 233)

The inscription of C. Seinus C. l. Acuntus, a “*medicus ocularius*” was found at Assisi, dating to the first or second centuries (Gummerus p. 67, n. 249).

Lucian of Samosata (c. 125 – after 180) wrote in Nigrinus “Well, I made straight for Rome, wanting to see an oculist; for I was having more and more trouble with my eye.” (Lucian 1923, pp. 100-101)

M(arcus) Iuli Secundi was a “*medici ocu(larii)*” with a Latin family name from second century Rome (Gummerus 1932, p. 36, n. 108; Cacciapuoti 2017, n. 8).

Galen of Pergamon (129-216 CE), who spent most of his career practicing in Rome, was familiar with cataract surgery (Leffler 2020). Usaybia stated that between the time of

Hippocrates and Galen lived a doctors named “Phoris, the operator on cataracts” and “Eudemos the ophthalmologist, nicknamed the King” (Usaybia 1971, pp. 70, 71), and that just after Galen lived “Dioscorides, the oculist” (p. 162). Galen referred to a cataract surgeon named Achilla, i.e. *Achilla parakentetoī*, which has been rendered in Latin as *Achillis compunctoris* (Galen, Kuhn, vol. 13, p. 90). Galen also wrote of Justus, an oculist who treated hypopyon by shaking the head.

M(arcus) P(---) Eutucæ was a “*medico oc(u)lario*” in 2nd or 3rd century Rome who had a Greek family name (Gummerus 1932, p. 36, n. 109; Cacciapuoti 2017, n. 9).

Primitivus Vio/lentillæ *ser(vus)* was an oculist and slave who lived in 2nd or 3rd century Rome, had a Latin family name, and died at age 19 years (Nutton 1972, p. 20, n. 24; Cacciapuoti 2017, n. 16).

Remnants of an iron cataract needle, combined with a bronze scalpel, dating from about 200 CE, were found in a shipwreck 3 km from Syracuse off Sicily. Both functional ends were broken off. Length of handle 3.7 cm. Excavated 1983-7 (Gibbins 1988; Gibbins 1989, figs. 8, 9; item PL85/128).

A cataract needle, dating from Roman antiquity, was found in the River Tiber in Rome. The provenance is uncertain. (At the Museo Nazionale Romano; Reggiani Massarini 1988, figure 9; Baker 2004).

Ulpian, a jurist active in Rome from 221 to 222, wrote that “if an oculist by using harmful remedies nearly blinds his patient, and induces him to sell him his property under the proper value, the provincial governor is to decree restitution for this incivile factum.” (Friedlander 1908, p. 173)

Claudius Aelianus (c. 175 – c. 235), born at Praeneste, described a goat curing its cataract by pricking the eye with a thorn (Leffler 2018).

Publius Flavius Vegetius Renatus, writing in the Western Roman empire, described the method of couching cataracts in horses in the late 4th century.¹

Cataract couching is written about in the sixth century text *Sapientia Artis Medicinae*, of which manuscripts are located at Montecassino and Rome (Leffler “Middle Ages” 2020).

Master Zacharias, was not able to study ophthalmology in Salerno or learn from Latin texts. Therefore, he trained in Constantinople under Theophilus, physician to the emperor Manuel I Komnenos (reign 1143-1180).²

¹ Book 2, chap. 17. Vegetius 1748, pp. 150-1. Latin: Vegetius 1574, p. 71.

² Lascaratos 1998, p. 391. Hirschberg, Blodi 1985, vol. 2, pp. 254, 257. Name given as Magister Zacharias, Master Zacharias, Magistri Zacharie. Zacharias book, apparently published the year after Hirschberg wrote, was: Tractatus de passionibus oculorum: qui vocatur sisilacera: id est, secreta secretorum. Compilatus circa annos 1143-1180.

About 1200 to 1250, Benevenutus Grassus, possibly of Jerusalem, travelled to Tuscany, Rome, Sardinia, Sicily, North Africa, and Montpellier (McVaugh 2001). Grassus was quoted by Yperman in 1328.

In the review of Naples archives of Raffaele Calvanico, covering 1273 to 1410, there are no eye specialists identified from 1273 to 1305 (Calvanico 1962, pp. 1-107). Calvanico had taken notes on the archives before they were destroyed by the Nazis in the Second World War.

In 1275, William of Saliceto (1210-1277), a professor at the University of Bologna, described cataract couching in detail (Saliceto 1998, p. 43; Hirschberg 1985, vol. 2, p. 258).

Magister Gervasius (Maitre Gervais) (d. 1292) was a physician of Salerno who was said to have performed eye surgery (Truc 1907, p. 80).

In 1306 (or 1307), magistro Nicandro Rogerii de Bartholomeo de Vayrano practiced in Naples. He was skilled in curing wounds, abscesses and eye diseases (“*curandis vulneribus apostematibus et curis oculorum*,”) and had certificates from Vayrani (Calvanico 1962, No. 860, p. 112; Faziri 2020, p. 83).

In 1308 (or 1309), Iohanne de Policastro was licensed in Naples to treat eye diseases and wounds (“*cura egritudinum ocularum et simpliciorum vulnerum*”) (Calvanico 1962, No. 997, p. 128-9; Faqiri 2020, p. 83).

In 1308 (or 1309), Giovanni da Policastro was licensed in Naples to treat eye diseases (“*egritudinum oculorum*”) and wounds (Calvanico 1962, No. 1365, p. 154; Faqiri 2020, p. 83).

Arnaldus de Villa Nova (c. 1240-1311), who practiced in Montpellier, but also in Barcelona and Italy, had seen cataract couching, and noted that it was rarely successful (McVaugh 2001).

In 1312 (or 1313), Andrea di maestro Paolo di Riccardo di Tedemario da Rietti was licensed in Naples as a “*chirurgo oculista*” (Calvanico 1962, No. 1491, p. 164; Faqiri 2020, p. 83).

In 1315 (or 1316), Ragone da Arienzo, illiterate surgeon (*chirurgo idiota*), was licensed in Naples in curing wounds and fleshy growths on the eyes, such as pterygia (*in curis vulnerum, scilicet in medendis ungulis et carnositatibus crescentibus supra oculos*) (Calvanico 1962, No. 1546, p. 168; Faqiri 2020, p. 83).

In 1325 (or 1326), Sindo da Arena was licensed throughout the entire kingdom of Naples as an eye surgeon (*chirurgo perito nelle malattie degli occhi*) (Calvanico 1962, No. 3062, p. 218; Faqiri 2020, p. 83).

In 1329 (or 1330), Clarice di Durisio da Foggia was licensed as a surgical oculist in Naples, but was only permitted to treat other women (“*chirurga oculista per le donne*”) (Calvanico 1962, No. 3127, p. 224; Faqiri 2020, p. 74-83).

In 1330 (or 1331), Nicola di Bartolomeo di Savino da Teramo, a surgeon, was licensed in Naples to treat wounds, abscesses and eye diseases (*in vulneribus apostematibus et etiam in curis oculorum*) (Calvanico 1962, No. 3199, p. 229; Faqiri 2020, p. 83).

In 1330 (or 1331), Odino da Gragnano, an illiterate surgeon, was licensed in Naples in curing abscesses and eye diseases (“in curandis antracibus apostematibus et ocalmiis oculorum simplicibus tunc sine periculo”) (Calvanico 1962, No. 3204, p. 230; Faqiri 2020, p. 83).

In 1330, Draga Slava (Draga the Slav), was licensed in Venice to practice medicine, on the basis of “laudabilis curis et experimentis factis de morbo podagrorum et oculorum” (Stefanutti 1961, pp. 101-2; Park 1998; Gabric 1993).

In 1333 (or 1334), Giacomo di notar Palmiero da Messina, an expert surgeon, was licensed in Naples, for removing fissures and eye diseases (*in crepaturis et morbis oculorum exceptis* (?)) (Calvanico 1962, No. 3270, p. 235; Faqiri 2020, p. 83).

In 1333 (or 1334), Giacomo de Contio de Servis, illiterate surgeon, was licensed in Naples to treat eye diseases (*in cura oculorum*) (Calvanico 1962, No. 3282, p. 236; Faqiri 2020, p. 83).

In the 1350s or early 1360s, the appointment in Florence of eye doctor Maestro Beltrame di maestro Neri of Cortona, previously hired by the city of Lucca, was justified on the grounds that Florence ‘lacks a good doctor expert in the treatment of diseases of the eyes’ (Park 1998).

Likewise, in the 1350s-1360s, Maestro Gregorio di Neri of Pisa was appointed in Florence on the grounds that ‘the city of Florence needs capable surgeons, especially those skilled in the treatment of eyes, hernias, abscesses or boils, and in the restoration of broken and dislocated bones’ (Park 1998).

The eye doctor Maestro Lionardo di maestro Iacopo di ser Tignoso Tignoselli came from a prominent family of Volterra, where he was granted a salary at one of the local hospitals. He served as ambassador to Florence in 1385, and then moved there, obtaining a lifetime tax exemption in 1388 due to his occupation, and then raising his sons there, one of whom became a physician (Park 1998).

Marguerite of Naples trained at the school of Salerno in the late 14th century and became a licensed oculist in Frankfurt-am-Main (Whaley 2011, p. 14).

In 1391, Bartholomeo di Gulielmo, a native of Reggio, worked as a physician in Bologna, and acquired a reputation as a miracle-worker for all eye affections, and received an annual salary of 28 florines of gold (Truc 1907, p. 108).

In 1422, a doctor “medicus” named Jan (or Johann), possibly Jan de Sacchis, an Italian from the University of Pavia, operated on the eyes in Krakow (see Poland).

In 1427, Benedetto di Francesco, shoemaker and eye doctor (‘chalzolaio e medico d’occhi’), aged 52, practiced in Florence (Park 1998). His raw wealth of 147 florins placed him in the lower half of the city’s inhabitants for wealth (Park 1998).

Isaac of Cremona was a Jewish oculist practicing in 1442 (Koren 1973, p. 63).

In 1502, Alessandro Benedetti of Parma (c. 1450-1512), who was the surgeon general of the Venetian army, wrote “How suffusions must be cured can be demonstrated in the eye of a cadaver.” (Lind 1975, p. 123) Benedetti’s work also took him to Greece and Crete.

In 1521, anatomist Berengario da Carpi (1470-1530) encouraged the dissection of eyes with cataracts to further knowledge of this disorder (Lind 1975, p. 160).

Pieter van Foreest (Petrus Forestus, 1521–1597) of Holland, who studied in Italy and France beginning in 1540, wrote that he observed a cataract couching performed by an oculist (“oculistae”), which initially appeared successful, but then failed (McVaugh 2001, Eldredge 1999).

In 1549, Leonardo Fioravanti performed a splenectomy in Palermo, with the assistance of Andriano Zaccarello, of Palo in the Kingdom of Naples, “who in that city operated by cutting, taking out cataracts, and similar things” (Gambaccini 2004, p. 107). Zaccarello actually made the initial incision with a razor.

In 1596, Durante Scacchi of Preci described surgeries for “cataracta” and “ungula oculorum” (pterygium) in his *Subsidium Medicinae* (Davidson 2015). He experimented with animals removing cataracts by bending a harp string into a hook and attempting to extract the cataracts (Scacchi 1596, p. 54).

By about 1611, Francisco Drago of Genoa had emigrated to Mexico, where he couched cataracts (Leffler 2016).

In 1648, brothers Sigismondo and Caterino Carocci of Preci were recognized for couching cataracts of Empress Eleanora in Vienna (see Austria, Davidson 2015).

In 1664 two oculists from Venice practiced in Graz (Popelka 1960, p. 663).

From 1662 to 1668, Francesco Bitocci of Norcia was appointed by the Bologna senate as *Litotomo Oculista* for the city and hospitals with an annual salary of 500 Lire (Fabbri 1870, p. 19).

From 1670 to 1681, Giacomo Marini was appointed by the Bologna senate as *Litotomo Oculista* for the city and hospitals (Fabbri 1870, p. 19).

In 1674, a surgeon from Norcia used a silver needle to treat the “catarati” of Angela, wife of Biasio Meneghela (Davidson 2015).

From 1680 (or 1689) to 1705, Francesco Marini of Norcia won a competition to serve as the *condotto* at the hospitals of S. Maria della Vita and S. Maria della Morte in Bologna, which for 200 lire annually required him to remove bladder stones, cataracts, urethral growths, and treat the territory’s poor for free (Gentilcore 2006, p. 183-4). His uncle (Francesco Bitocci) had also held the position previously (Gentilcore 2006, pp. 183-4; Fabbri 1870, p. 19).

Domenico Lazzarini from Padua, who called himself the “Aromatario Padoano” advertised as a “surgeon-oculist” in Italy some time after 1680 (Gentilcore 2006, p. 309).

In 1696, Joseph Viviani was the court oculist (Hofokulist), lithotomist, and fracture doctor, in Königsberg. He had trained in Padua (Henning 1989).

Until 1706, Antonio Santarelli was the oculista at the Hospital of S. Maria Nova in Florence (Fabbri 1870, pp. 23-4).

In 1749, oculist Henri Meiners advertised in Brussels that he had just completed a tour which included practice in Italy (Schevensteen 1924, p. 28-29; see Belgium).

The lithotomist and oculist Benedetto Bonini, originally of Norcia, advertised in Rome on June 18, 1757. He performed “the depression of cataract, even extracting the same from the eye for greater safety...The same, with a new method, treats and liberates all lachrymal fistulas, hernias and ureteral growths.” He planned to tour Italy and France before returning to his home in Palermo, Sicily (Gentilcore 2006, p. 187).

In 1775, the oculist Albanesi advertised in Naples the extraction of “the crystalline lens, vulgarly called cataract” (Gentilcore 2006, p. 366).

Turkey (100 CE).

Apollonius of Tyana (c. 15 – c. 100 CE), an itinerant healer, frequented the temple of Asclepius in Cilicia. One man had his eye put out, and had made offerings at the temple of Asclepius, “and he is supplicating the god to restore to him one of his eyes that has fallen out” (Philostratus, Book I, p. 25). However, because Apollonius knew that he had lost the eye due to his sins, the man’s vision would not be restored. Apollonius was said to have travelled first to Babylon, and then on camels to Taxila about 46 CE, where he met Phraotes, the Indo-Parthian king. After leaving Taxila, Apollonius crossed the river Hyphasis in India, and came to the Indian region between the Hyphasis and the Ganges Rivers, where the chief Brachman was named Iarchas (Philostratus pp. 227-233, 335), and where Apollonius performed healings by massaging the hip of a man who had injured it hunting lions. He also healed a man with a weak hand, “And another man had had his eyes put out, and he went away [after encountering Apollonius] having recovered the sight of both of them.” (Cotter 1999, p. 43; Philostratus, p. 317-8)

Theophilus of Antioch in the 2nd century CE referred to “cataracts [ὑποκεχυμένους, hypokechymenous] over the eyes of your soul”, and how God will “couch [παρακεντήσει, parakentesei] the eyes of your soul” (Theophilus 1970, pp. 4-11).

Two cataract needles dating from the 3rd century CE were found at doctor’s burial sites in Southeast Asia Minor, and are at the Romisch-Germanischen Zentralmuseums in Mainz. The first is silver and has a length of 13 cm. (Hassel and Künzl 1980, plate II, item 4). The second such cataract needle (according to Jackson 1986) is bronze, and has a length of 16.2 cm. The other end has a second needle, with a tiny spatula-like expansion near the tip. Stem design modelled after club of Hercules. May also have been for cautery or other fine procedures. (Hassel and Künzl 1980, plate III, item 10)

Diogenes Laërtius (fl. 3rd century), who may have been from Nicaea, wrote that when Didymon, who was a rake (or adulterer), was treating a girl's eye, Diogenes the Cynic (d. 323 BCE) said "Beware...lest the oculist instead of curing the eye should ruin the pupil."

Du Huan (735-812 CE) of China spent time in Arab regions as a prisoner of war. He noted in *Jingxing ji* (Notes on the Places Passed By) that: “[The doctors of] the Eastern Roman Empire are good at treating eye diseases and diarrhoea. Some of them can predict disease before it comes. Some of them can carry out craniotomy to remove worms.”(Ming 2007)

The cleric Leo of Thessalonica (9th century) wrote that *hypochyseos* was an inflamed, thick liquid between the choroid and cornea, which could be treated with *parakenteseos* (puncture)..¹

Lists of surgical tools which might have represented checklists for actual use in Byzantine hospitals include cataract couching needles: *parcenteter* in a 9th century manuscript (Codex Parisinus Latinus 11219), and παρακεντέριος (*parakenterios*) in the 11th century (Laurentianus gr. LXXIV 2).²

In the 12th century, Stephanos of Tarsos, a resident in Constantinople of the Monastery of Saints Cosmas and Damian (the Cosmidian Monastery) was reported to have suffered from blindness for 5 years when the monastery doctors pierced and pricked his eyes with an iron instrument, returning his sight (Lascaratos 1992, p. 145). This may be the archbishop Stephanos of Tarsos active at Antioch in 1135-1139 (Leffler “Middle Ages” 2020).

Master Zacharias, of Salerno, trained in ophthalmology in Constantinople under Theophilus, physician to the emperor Manuel I Komnenos (reign 1143-1180).³

The Sivas Hospital in Constantinople, founded in 1217, had oculists on its staff (Said 1988, Yilmaz 2013).

For some time after 1268, Abu'l-Tanā' (1236-1311) of Persia worked in Konya, in Anatolia. He everted eyelids, and removed pterygia and pannus, but did not couch for cataracts (see chapter on Persia).

Johannes Zacharias Actuarius (c. 1275- c. 1328) wrote that hypochyma is curable, while glaucoma is not, because in the latter the lens is destroyed by a foreign moisture.⁴ At the start of the 14th century, the Darü'r-raha almshouse of Sivas had oculists on its staff (Yilmaz 2013).

In the latter half of the 14th century, Shadhili of Egypt described a Christian Russian oculist in the Byzantine empire who was familiar with the hollow needle for cataract extraction (Leffler, Samara 2020; Savage-Smith 2000).

¹ Fronimopoulos 1991, 369. From: Leonis Philosophi et Medici: Conspectus Medicinae. In: Leon 1840, chap. 25-35, pp. 140-147. Also known as: Leo Medicus, Leo the Physician, Leo Philosophus, Leo the Philosopher, Leo the latrosophist, or Leo the Mathematician. Lascaratos 1991, p. 377. Lascaratos 1988, p. 157.

² Bliquez 1984, p. 187.

³ Lascaratos 1991, p. 377. Lascaratos 1998, p. 391. Hirschberg, Blodi 1985, vol. 2, pp. 254, 257. Name given as Magister Zacharias, Master Zacharias, Magistri Zacharie. Zacharias book was: Tractatus de passionibus oculorum: qui vocatur sisilacera: id est, secreta secretorum. Compilatus circa annos 1143-1180.

⁴ Fronimopoulos 1991, 369. Lascaratos 1998, p. 391. John Actuaris, De Diagnosi, Lib II, Ch. J'. Lascaratos 1988, p. 157.

Constantinople fell to the Ottoman empire in 1453.

Amirdovlat Amasiati (1420-1496) was an Armenian doctor, born in Amasia in about 1420. He trained in Amasia and Sebastia in the 1450s (Vardanian 1999, p. 143). He travelled around Macedonia in the late 1450s (Vardanian 1999, p. 33). It is believed he travelled around Persia in the 1450s, as he frequently mentioned Shiraz, Khorasan, Gurgan, Isfahan, and Tabriz (Vardanian 1999, pp. 33, 88, 101). Amasiati arrived in Constantinople by the end of the 1450s. He described cataract couching (Vardanyan 1999, p. 41): "It is necessary to puncture eye tissues, and insert a needle, and drain the [indurated] cataracts, and then, the eye will clear up and be cleansed, and when you make sure that all of the [cataracts] was drained, then lay a sleeping patient down on his back, put a plaster made of rose oil and egg yolk on his eyes, put a pillow under his head, and [secure the plaster with] a bandage. And let him remain in the dark room wearing the bandage for three days" [46:217]. Mohammed II captured Constantinople in 1453, and then made Amirdovlat his chief eye surgeon ("*charah-pashi ramatanin*") (Vardanian 1999, pp. 33-34). Amirdovlat wrote his *Benefits of Medicine* in Philipopolis (current Plovdiv, Bulgaria) in 1469 (Vardanian 1999, p. 34).

In 1465, Serafeddin Sabuncuoglu (1385–1470 AD), who practiced at the hospital at Amasya, wrote a surgical treatise in Turkish which covered cataract surgery.

In 1470, the Fatih Hospital was built around the Fatih Mosque in Istanbul, and employed one oculist (Said 1988).

In 1551, the hospital of Haseki Hurrem Sulta, the wife of Sultan Suleyman, was completed in Istanbul (Kayaalp 2019). The hospital was part of the Haseki Mosque Complex, and employed two oculists (Kayaalp 2019). The first physician received a daily salary of 30 *akce*, the first surgeon and oculist received 5 *akce*, and the second surgeon and oculist received 3 *akce* daily (Kayaalp 2019).

In 1598, Corina Moses was a Jewish oculist in the service of the Turkish government (Koren 1973, p. 37).

In 1604/5, the Istanbul court had 23 medical professionals, including two oculists. Nine of the court medical professionals came from medical families (Russell 1990).

Jacob Winckler, active in Vienna between 1614 and 1628, was an "Oculist, Stein: un[d] Bruchschneid", from that city, who treated cataracts ("Staar"), and advertised that he was licensed in "Türckey", Poland, and Hungary (see Austria and Germany).

Evliya Çelebi (1611-1682) visited Bitlis in 1655 and reported that Abdal Khan, the Kurdish emir, performed cataract aspiration (Çelebi 1990, pp. 96-7).

Evliya Celebi (1611–1682) estimated that in Istanbul, there were 700 surgeons (cerrah); 80 oculists (kehhal), and 100 purveyors of eye solutions (tutyaciyen) (Afacan 2010).

Evliya Celebi (1611-1682) wrote that on the top of Mount Egerli, one half hour south of Erzerum, there are medicinal herbs, such as "the Tutia flower, the scent of which perfumes the air. Oculists come here to collect the plant Tutia, and with it cure people who have been diseased for forty years." (Celebi 1846, p. 115)

Before his London handbill estimated to be from 1700, the oculist J. A. K. advertised as "the Muscovy Oculist, Stone, and Rupture Master", who had practiced "First in Muscovy, next into Germany, and afterwards...came into Turkey" (see British Isles chapter).

Between 1732 and 1735, Regina Salomea Pilsztynowa, a woman oculist from Poland, explained she had learned from her oculist husband and "I gained some other useful

information from another oculist, a Turk from Babylon” while in Istanbul (Koneczacki 2002; Pilsztynowa 2021, p. 75; Lubamersky 2014).

In 1749, oculist Henri Meiners advertised in Brussels that he had just completed a tour which included practice in Turkey (Schevensteen 1924, p. 28-29; see Belgium).

In 1793, the oculist Guillaume-René Lefebure, Baron de Sainte-Ildefont, practiced in Turkey (Schevensteen 1924, see Belgium).

In 1861, in Constantinople, a “gray-bearded, green-turbaned” oculist practiced in a six-foot square office in a bazaar, “where every passer-by can witness all proceedings, he prefaces each operation with a long prayer, and administers extreme unction to the golden needle with which he depresses the lens.” (Goodell 1861).

Serbia (1st century CE).

A tomb from the 1st century in Viminacium contains collyrium stamps and a bronze couching needle (Pardon-Labonnelie 2020).

Spain (100 CE).

Albanus Artemidorus was a “*medicus ocularius*” from the first century at Gades (Cádiz) (Gummerus p. 84, n. 325).

In the first century, M. Fulvius Icarus Pontuficiensis was a “*medicus ocularius*” in Ipagrum near Cordova (Gummerus p. 86, n. 333).

A cataract needle with a bronze handle with functional end of needle missing, dating from 50-150 CE, was obtained from a necropolis of incineration burials at La Cañada (Gandul, Sevilla). Length 8.6 cm. Excavated 1908-1910 by George E. Bonsor (Hibbs 2018, fig 2, item 7).

Several finely crafted hollow metal needles, potentially suitable for cataract surgery, have been found at Villa dels Tolegassos, Viladamat, Girona, dating from about 200 CE (Pérez-Cambrodí 2015).

Calcidius in the 4th century CE referred to “hypochysis” obscuring vision, and also that someone having double vision from twin pupils (“*geminis pupulis*”) would have the physician remove the “unnatural pupil through surgical intervention”, perhaps by placing a scar (“*cicatrice*”) in front of the unwanted pupil (Calcidius 2016, pp. 504-5). Although Calcidius location is not known, he wrote one commentary for Bishop Hosius of Córdoba.

The Visigothic kingdom with its capitol at Toledo issued law codes in 654 and 681 which established: “If a physician lifts from the eyes the hypochyma or removes it from the eyes and re-establishes the health of the patient then five solidi should be paid as his fee.”¹

¹ Hirschberg, Blodi 1985, Vol. 2, p. 245. The code of 654 was the lawbook of Reccesvind (Recceswinth, Reccessvind) entitled “*Antigua*” or “*Lex Visigothorum Reccesvindiana*”. The law was repeated in the *Lex Visigothorum Erwigiana* of 681.

In 941, the Andalusian brothers Ahmad and ‘Umar felt it necessary to travel to Baghdad to study the works of Galen and to train in the treatment of eye diseases, only returning in 962.¹

Abū Al-Qāsim Khalaf Ibn ‘Abbās Al-Zahrāwī (936-1013, d. 400 AH) (known as **Albucasis**) of Córdoba was a surgeon whose treatise “The Explanation for He Who Is Unable to Write Books” covered cauterization, dissection, bonesetting, and operations such as cataract surgery, and suggested personal familiarity with the latter (Wafai 2016, p. 42; al-Zahrawi 1973).

Abū Al-Muṭarref ‘Abdul Raḥmān Ibn Moḥammad Ibn Wāfid Al-Lakhamy (388-468 AH, 998-1075), known later as Abenguefith, was a physician in Toledo. He wrote “Close Observation in the Diseases of the Visual System”, which has not survived (Wafai 2016, p. 21).

Sulaymān ibn Hārith al-Qūṭī, known later as Alcoatim, started his ophthalmic treatise in 1159 in Toledo. He improved the cataract needle by designing a wooden handle (Hirschberg 1985, vol. 2, pp. 79-1).

Moḥammad Ibn Qassūm Ibn Aslam Al-Ghāfiqī (d. 595 AH, 1197), of Ghafiq, near Cordoba, was an oculist who wrote al-Mursīd fi’l-kuhl translated as Le guide d’oculistique (Wafai 2016, p. 22-23; Hirschberg 1985, vol. 2, pp. 77-9; Al-Ghafiqi 1996; Al-Ghafiqi 1933).

In 1253, Abraham of Aragon was invited to treat Alfonso de Poitiers in France (see France).

In 1284, the oculist Vidal Espeçero of Monson in Aragon was asked to treat the wife of the noble Bernardo de Mauleone. However, the oculist was kidnapped en route by the man who requested him, and held for ransom at the castle of Monfulco (Shatzmiller 1994, p. 67).

Arnold of Villanova (c. 1240-1311), who studied medicine at Montpellier until 1260, wrote that he had frequently seen cataract couching performed, but had rarely observed a successful outcome (McVaugh 2001). Villanova travelled throughout France, Catalonia (Barcelona), and Italy.

In 1330, Jaume Roca of Aragon travelled to Graz to treat the eyes of Princess Isabel (see Austria, Cardoner i Planas 1973, pp. 174-6).

In 1342, an anonymous Moorish slave (“servus”) owned by the town of Vilafranca de Penedes was known to be an expert in the treatment of eye diseases and treated the eyes of the noble Roger of Sant Vicenç, according to King Peter (Cardoner i Planas 1973, pp. 174-6; McVaugh 1993, p. 55).

In 1342, Ramon Garrica, who probably performed cataract surgery, practiced in Mallorca, where he resided in 1342 (Cardoner i Planas 1973, pp. 174-6).

¹ Ibn Abī ‘Uṣaybi’a, Kopf 2017, p. 490.

In 1351, Pere de Surso, of the diocese of Latour who worked in Perpignan, was granted permission to practice the treatment of eye diseases by the king (Cardoner i Planas 1973, pp. 174-6).

In 1409, David Damasto was examined as an oculist in Murcia. It was noted that “maestre Davi Damastos sodes buen maestro de sanar dolencia de los ojos” (Torres Fontes 1973, p. 233-4,256).

In 1412, “maestre Manuel” who called himself “físico de los ojos” in Murcia complained to the town council that he had converted from Judaism to Catholicism to save his soul, but he earned less with the Christians. The council agreed to pay Manuel a salary (Torres Fontes 1973, p. 240).

In 1468, the Jewish rabbi and oculist of Lleida (Lerida), Cresques Abiabar (Ibn Abiatar Crescas, don Abiatar Aben-Crexcas) performed cataract couching on King Juan II of Aragón on September 11 and October 12, 1468, followed by complete success (Cardoner i Planas 1973, pp. 174-6; Korean 1973, p. 4; Ruben Maslaton 2014 np; Balaguer 1862 p. 608; Hirschberg 1985, vol. 2, p. 258).

In the 1470s, Leal, a Jewish woman of Seville practiced ophthalmology. Her husband was a silversmith. She was called “*maestra* of healing eyes” and “doña”. Contracts from 1474 to 1478 for her healing with medications for unmarried daughters of a Muslim bricklayer, a sailor, and a farmer have survived. After 1478, when the Inquisition began in Seville, Leal is not heard from again (Marquez de Aracena 2012).

A law from Simancas thought to date from 1510-13 referenced “oculistas” (Gonzalez Arce 2011).

In 1584, according to a provincial archive from Valladolid, the woman healer Beatriz de los Rios had an inventory which listed multiple objects for curing eyes, including waters, medicines, honey, ointments, and a case with a knife and two pairs of scissors (No author 1584, Espina-Jerez 2023).

In 1588, King Felipe II issued a law licensing health professions, including surgeons who treated “cataratas” (Cobo 2004).

In 1590, the Valencia authorities hired Pedro del Río, a “foreigner” surgeon cured cataracts, other eye diseases, and genitourinary disorders. He received a fixed salary in exchange for free treatment of the poor (Terrada 2002).

In 1590, “Maître Jan Jeuris, Egyptien, né en Espagne” practiced “l’art de la chirurgie” in Anvers. He did treat patients with “des affections des yeux” (Schevensteen 1929).

A case of cataract couching was documented by physician Luis Mercado in Spain in 1594 (Leffler “Latin America” 2016).

In 1606, Antonio Lefort of Burgundy, France, now a resident of Riudoms, was issued a license in Catalonia to cure *cataratas* with a needle and *morbo gálico* with an ointment (González 1973; Cobo 2004).

In 1623, the optician Benito Daza de Valdés provided detailed descriptions of the spectacles to be used after cataract couching (Leffler “Latin America” 2016).

In 1665, a report on Madrid hospitals by Aldana y Arellano noted that one surgeon “cura mal de ojos y cataratas” (Perales 2013, p. 246).

François Callot (1660-1733) of Nancy, an “opérateur , oculiste et lithotomiste” who married a surgeon’s daughter in 1684, was said to have travelled to Spain for his work (Lorrain 1901, p. 184-5; see France).

In 1736, Jacques Daviel of France, “Cirujano Oculista” announced his practice as an oculist in the *Gazeta de Madrid* (Oct 23, 1736, p. 180; Nov. 20, 1736, p. 196; Rojo Vega 2010).

In 1738 and 1755, John Taylor announced his practice as an “*oculista*” in the *Gazeta de Madrid* . He publicized his treatise which discussed “*curar la gota serena, los bizcos, el glaucoma, y las cataratas*” (Apr. 29, 1738; Jun. 3, 1738; Rojo Vega 2010).

In 1741, “Don Manuel Valero, *Cirujano Oculista*” announced his practice in the *Gazeta de Madrid*. He had just performed several cures in Cabra (Feb. 21, 1741, p. 64).

In 1741, “Francisco Martín, *cirujano oculista*” announced in the *Gaceta de Madrid* that he would spend July in France (May 16, 1741, p. 160). Later, Don Francisco Marin, “Cirujano Oculista de los Reales Hospitales” announced in the *Gaceta de Madrid* his translation of the ophthalmic treatise of Louis Gendron of France (Fernández 1992, p. 24). Martín was still practicing in 1747 (Apr 18, 1747, p. 132).

In 1748, Pedro Joseph de Lorie, of the French nation, asked the city of Oviedo for a license to practice his art of “Dentista y Oculista”, as he had done in Pamplona (Casal 1900, p. XXXIII).

In 1749, oculist Henri Meiners advertised in Brussels that he had just completed a tour which included practice in France (Schevensteen 1924, p. 28-29; see Belgium).

In 1753, “Don Luis Beranger Oculista de París” announced his surgical practice in the *Gazeta de Madrid* (July 17, 1753, p. 232; Oct. 2, 1753; Rojo Vega 2010).

In 1776, Lorenzo Lemaire (Lemayre) announced his practice in Madrid. “Mr. le Maire Cirujano oculista francés” would perform “una operación de cataratas en Dominga González por un nuevo método haciendo la extracción del cristalino” in Madrid. Those who wish to see the operation should go to the doctor’s house (*Gaceta de Madrid*, Sep. 10, 1776, p. 328). By 1793, Lemaire had taught his 19-year-old niece, Victoria de Félix, how to do eye surgery, but as her star rose, she eclipsed him. By 1796, he was destitute and ill and had to live in the home of a baron who provided him charity (de Demerson 1973).

On May 28, 1793, the *Gaceta de Madrid* advertised that “D. Toribio Merino, cirujano oculista en Valladolid” performed cataract extractions (Palmero 2014).

In 1793, 19-year-old Victoria de Félix, announced her ophthalmic practice in Madrid. Born in Nevers, France in about 1773/74, she settled at some point in Madrid with her mother, and learned how to perform cataract extractions, and other ophthalmic practices, from her

uncle, oculist Lorenzo Lemaire. In just a few months in 1793, she operated on a lacrimal fistula, six pterygia, two cases of trichiasis, and ten cataracts (de Demerson 1973). She practiced in Cartagena and Murcia in late 1793, early 1794. She was the ophthalmologist to the Spanish elites, and to the poor for whom she provided charity. In Cádiz, she operated on Don Sebastián Pérez, the mayor of Veracruz, who returned from the New World to have her operate on his cataracts. By 1797, she earned the title of “*oculista con Real [royal] permiso*”. Her engagement to a retired French cavalry captain was announced in 1796, and the couple had a son born in July 1799. Their wedding did not take place until March 1800. Several months later, the mother of Félix died. It has been stated that in 1808 Félix and her husband moved to his hometown in Sisteron, France, due to the unstable political situation in Spain (de Demerson 1973; del Cid 2009). However, a notice in the *Gaceta de Madrid* of August 26, 1810 announced: “Doña Vitoria de Félix, *oculista con real privilegio, continúa en la curación de las enfermedades de los ojos*” (p. 1066). So, we are not sure when, or if, she moved away from Madrid. She was present in Madrid in 1818, 1820, and 1822, as she attended to pending legal matters (Rojo Vega 2010, Marquez de Aracena 2012; de Demerson 1973; Marquez de Aracena del Cid 2009).

In 1794, “*el cirujano oculista Pedro Antonio Colomer*” offered his services in the *Gaceta de Madrid* (Jan 10, 1794, p. 47-8; Apr 8, 1794, pp. 402-4).

Towards the end of his life, surgeon Antonio Gimbernat (1734–1816) of Madrid had successful cataract surgery performed by D. Jose Ribes (Comenge 1908, p. 164).

France (3rd century).

Dating from 3rd century CE, the burial site of oculist Gaius Firmius Severus near Reims, France, held several ophthalmic instruments. A needle handle, and 8 round needle handles, all of bronze were found, and are considered possibly suitable for cataract surgery (Baker 2011, Item 41). Also found were 4 round handles, with a small round hole for a needle (Nos. 32-35, Length 6 to 7.2 cm), and 4 handles with an angular cross section, for insertion of a needle. Nos. 34-38 appear to be useful as a scalpel handle (Nos. 36-39, Length 4 to 6.2 cm). (Musée des Antiquités Nationales in Saint-Germain-en-Laye. Voinot 1999 catalog #104. Item numbering above as per Kunzl 1983, pp. 61-67, Fig. 37, Nos. 32-39; Milne 1907, pp. 21, 69-70. Kunzl 1983; Milne 1907, p. 21; 69-70, Table 2, 1-5.7; 16,2-6; 20,3-4;21,2.4; 23,2.4; 29,2; Hassel-Kunzl 1980, p. 415).

Five cataract needles dating from the period of Roman Gaul (51 BCE to 406 CE) were found in the River Saône near Montbellet. Some of the needles are hollow, and it has been postulated that they could be used for cataract extraction by aspiration (Feugère et al. 1988, pp. 24–41.)

Gregory of Tours (538-594) used the term cataract to describe eye ailments several times. The cataract descended upon the eye: “Here I will expound only what has happened to the negligent, who after the virtue of heaven have sought out earthly medicaments, because his virtue is demonstrated not only in the methods of his cures but also in his punishing the stupid. Leonastis, Archdeacon of Bourges, lost the sight of his eyes when cataracts descended [*decedentibus cataractis*] upon him. And when he could not receive any vision at all as he went around many doctors, he went to the basilica of St Martin; there he remained

for two or three months, fasted continually, and prayed for the recovery of his sight. And indeed when the festival arrived, his eyes were made clear and he began to see; and when he had returned home, he summoned a Jew and put cupping glasses on his shoulders, by whose help he could increase the sight in his eyes. And when his blood also fell, he was again returned to a revived state of blindness.”¹ The ophthalmic cataract was also mentioned in conjunction with surgery to pierce the eyes, even if in the Christian view a miracle was superior to surgery. Gregory of Tours wrote: “The deacon Theudomer suffered from a swelling on his head; when cataracts developed, the openings to his eyes were painfully blocked for four years.”² But then Theudomer knelt all night and shed tears on the ground. “When daylight came, the cataracts on his eyes were opened [*reseratis cataractis luminum*], and he deserved to see the daylight. What [cure] such as this one have doctors ever accomplished with their implements? Their efforts produce more pain than healing; and after stretching and piercing an eye with their needles [*spiculis oculo*] they fashion the torments of death before they open the eye. If caution is lacking in this operation, the doctor is providing eternal blindness for the wretched patient.”³ Gregory used the term *cataractis* with respect to the eyes at least 3 times, and always in the phrases *decedentibus*/*decidentibus cataractis* or *reseratis cataractis*.⁴

A student of William Congenis (c. 1175–1225) observed an unsuccessful couching of cataract (“cataracta”) at Montpellier (McVaugh 2001).

Benevenutus Grassus might have practiced at Montpellier about 1200-1250 (McVaugh 2001).

In 1253, Abraham of Aragon, who was Jewish, and was originally from the land of “Moors” or “Saracens” (*ex terra saracenorum*, i.e. the parts of Spain under Muslim control), agreed to treat the eye disease of Alfonso de Poitiers (Cardoner i Planas p. 174-6; Wickersheimer 1936, vol. 1, pp. 269-70; Truc 1907, p. 78). Abraham was invited by Ramon Gancelme, of Lunel, in Southern France (Cardoner i Planas p. 174-6). Alfonso actually typically resided in Paris.

Arnold of Villanova (c. 1240-1311), who studied medicine at Montpellier until 1260, wrote that he had frequently seen cataract couching performed, but had rarely observed a successful outcome (McVaugh 2001). Villanova travelled throughout France, Catalonia (Barcelona), and Italy.

In 1288, “A. Haiim, lo serorge e metre de Brinon” was burned at the stake in Troyes. Of Haiim, perhaps from Brienon-sur-Armancon, it was said that he “gave sight to the blind” (Wickersheimer 1936, vol. 1, p. 270; Koren 1973, p. 59).

By 1295, cataract couching probably reached Paris, with the arrival of Lanfranc of Milan (Leffler “British Isles” 2021).

¹ Translation by David Butterfield, PhD, personal communication, 2014. In Latin: Gregory of Tours 1886, Book 5, Col. 210. p. 152.

² Wallis 2010, p. 57.

³ Wallis 2010, p. 57. Latin in McVaugh 2001.

⁴ McVaugh 2001.

Bernard de Gordon (c. 1258-1308) at Montpellier wrote *Practica seu Lilium medicine* in 1305.¹ He believed eating fish thickened the cataract, and advised treatment of cataracts with theriac and *yera pigra*. If medical treatments failed, then “a diligent *restaurator* [surgeon]” should be selected.²

In about 1314, John of Gaddesden wrote about cataract couching, but whether he saw the procedure in Montpellier or in England is unclear.

In 1320, Pierre de Saint Milon practiced as a surgeon in the Bordeaux region at Carcassonne, and was said to practice as an oculist (Chabé 1908, p. 56).

In the 1330s, a French doctor travelled to Wroclaw to treat the eyes of King John of Bohemia (McVaugh 2001, see Czechia).

In 1339, King John of Bohemia travelled to Montpellier, where he was given medical treatment by Guy de Chauliac (McVaugh 2001). Guy seems to have been familiar with couching because he wrote that he preferred an iron needle (McVaugh 2001).

In 1375, the barber Etienne Robaudi treated an ocular affection in a laborer of Grasse (Wickersheimer 1936, vol. 1, p. 142).

Gerard de Lacombe, originally from Auvergne, studied medicine at Montpellier. He practiced medicine, primarily in Lyon beginning in 1375, but also in Paris and Boulogne (Wickersheimer 1936, vol. 1, p. 184). He was cited as a doctor and surgeon of Lyon in the beatification of Pierre de Luxembourg, with regard to an ocular ailment (Wickersheimer 1936, vol. 1, p. 184). The remedy *Recepta ad oculos* of “Girardus de Cumis” is cited in a Vatican manuscript (Wickersheimer 1936, vol. 1, p. 184). In 1389, while in Lyon, he was asked to treat a child who was brought from Avignon and had a spot on the right eye “*maculam in oculo dextro*” (Truc 1907, p. 108-9). Gerard died at Chalon-sur-Saone in 1408 (Wickersheimer 1936, vol. 1, p. 184).

Jacob de Lunel was a Jewish doctor, a Carcassonne, who in 1405 was authorized to go to Beaucaire and other places in the kingdom. Lunel was cited in treatises regarding ophthalmic practice (Wickersheimer 1936, vol. 1, p. 316).

In 1454, Ponce de Bagis, who had a Bachelor of Medicine from Montpellier, undertook, for 5 gold crowns, to restore sight to a blind man from Aniane. If the vision did not return after two and a half months, Ponce would receive only the price of the medicines provided. When the doctor went to Aniane, he was to receive free table board (Wickersheimer 1936, vol. 2, p. 668; Thorndike 1937, p. 399-400).

In 1464, a Jewish oculist died, according to a Hebrew note on a 14th century manuscript in his possession. This manuscript was a collection of ophthalmic treatises, including the works of Benevenutus Grassus, *Liber de Oculis* of Constantine the African, the treatise of Accanamosali of Baghdad, and the *Practica* of Serapion on eye ailments. The manuscript is held in the library at Besançon (Truc 1907, pp. 141-2).

¹ Demaitre 2013, p. 326.

² Demaitre 2013, p. 167.

In 1465, Martin de Calera, a Romani physician (“de Parvo Egito”), passing through Tarascon, signed a contract to cure the eye ailment suffered by the Jewish physician Salves Avigdor (1441-87) (Wickersheimer 1936, vol. 2, pp. 540, 730).

In 1468, a Jewish doctor, surgeon, and oculist of Arles named Ashen, son of Moise, of the family Olobrega, translated a number of ophthalmic treatises from Latin into Hebrew (Truc 1907, p. 142).

In 1470, Jean le Roy was known as an operator for hernia, cataracts, and incisions, and was received by the Parisian brotherhood of surgeons of Saint-Come (Wickersheimer 1936, vol. 2, p. 437)

Before 1471, surgeon and oculist Hans von Dockenburg (Toggenburg) practiced in Alsace (Paulus 2021, p. 22; see Hungary).

Peter of Narbonne (a convert from Judaism to Christianity), was a physician, surgeon, and oculist at Avignon in the late 15th century (Koren 1973, p. 108).

Ambroise Paré (c. 1510 – 1590) of Paris wrote about surgery, including ophthalmology, in 1564.

In 1572, the statues of Avignon declared that operations for hernia, the stone, or cataract could be performed by practitioners without diplomas since these operations were learned by practice (Truc 1907, p. 156).

Bernardino de Mendoza (c. 1540 – 1604) of Spain was an ambassador stationed by his king in Paris in 1584. In 1585, Mendoza noted that he had fatigue of the eyes due to “el humor” which had settled in them, causing “dolor” (pain) and “caliente” (heat) (Herrera 1989). In 1586, he had surgery performed with “la aguja” (the needle) for “una catarata” of the left eye while under the care of “los médicos y oculistas” of Paris (Herrera 1989). Nonetheless, by 1589 he was almost completely blind (Herrera 1989).

Jacques Guillemeau (1550-1613) studied at Montpellier, and later became the French royal surgeon. In 1585, he published an encyclopedic system of ophthalmology which became the standard ophthalmic text for the next century.

In 1595, “Maister Awin [a] Parisian”, who couched cataracts, practiced in Edinburgh (Leffler “British Isles” 2021).

By 1596, Peter Lowe of Scotland had observed cataract couching in Paris while training (Leffler “British Isles” 2021).

In 1602: “Permission accordée au sieur de Haultois, opérateur, de tirer la pierre, « abattre la catelette de dessus les yeux. » etc. in Ville de Dijon (Gouvenain 1892, p. 48).

Claude Charpentier, the elder, was “chirurgien oculiste du roi”, had arrived in Paris before 1592, and had died by 1612. Claude Charpentier, the younger, also “oculiste du roi” in Paris, was married in 1592, and died in 1627 (Ranum 2014).

In 1619, Gilles de L'Angelique, “Operateur, Oculiste & Chirurgien” performed cataract operations in Saint Brieu (Saint-Brieuc) (L'Angelique 1622, p. 391-400).

In 1630, Hiérosme (or Jérôme) Cellier, opérateur et oculiste practiced in Paris (francearchives.gouv.fr).

In 1658, François Thévenin died, after establishing himself as an oculist and Chirurgien Ordinaire du Roy in Paris (Truc 1907, p. 177; Chabé 1908, p.63). That year, his works were published by Guillaume Parthon, Chirurgien Oculiste du Roy in Paris (Thevenin 1658).

From 1665 onward, surgeon Charles Bernoin of France (1615-1673) practiced in the Holy Roman Empire, (see Germany).

By 1675, Gonsale Gerardts of The Hague had practiced in Paris for 3 years at the Kings Hospital (Leffler “British Isles” 2021).

In 1682, Hans Brandt, opérateur oculiste, practiced in Strasbourg (Fleur 1929).

In 1692, Jean Langevin, oculiste et lithotomiste from Charnac moved to St. Gallen in the wake of the 1685 revocation of the Edict of Nantes (Robert 2005).

Antoine Maître-Jan (1650-1730) of Paris, an ophthalmologist who published his treatise in 1707, was practicing by the 1690s.

In 1690, Marc-Antoine Roger, operateur-oculiste of Paris, travelled to Laval to practice (“Jean Ambroise” Wikipedia.org).

In 1692, in the Ville de Dijon, Marc-Antoine Polony, « opérateur oculiste et litotomiste des États du Languedoc », received authorization to prepare a public theater to practice and to sell Orviétan (Gouvenain 1892, p. 48).

Between 1694, Lewis Gerard, an oculist, had practiced in France. He couched the cataract of a priest which later was extracted by Petit in 1708 when it subluxed into the anterior chamber (Leffler “British Isles” 2021).

By 1696, John Thomas Woolhouse of England (1664-1733/4) had begun practicing in Paris (Leffler 2017).

In 1689, the Parlement de Bordeaux authorized “Lange Martorel, opérateur occuliste, litotamiste [sic] et enpirique”, to practice (Chabé 1908, p. 63).

By 1700, Mr. Cawood had practiced in France, before he moved to Ireland (Leffler “British Isles” 2021).

In 1700, permission was given in Ville de Dijon for Jean Dubuisson, « opérateur oculiste et litotomiste, seul privilégié des États de Bretagne », to establish himself in Dijon with his troupe and prepare a theater at the place Royale, to distribute his remedies, as long as he yielded to the operator Lescot, should Lescot visit (Gouvenain 1892, p. 48).

In 1684, François Callot (1660-1733), born in Auxerres, married in Nancy the daughter of an “opérateur”, the “sieur Jean Jeannès”. Callot, an “opérateur , oculiste et lithotomiste” was called to Germany, France, and Spain for his work (Lorrain 1901, p. 184-5).

In 1738, Antoine Ferrein in Paris recommended cataract depression through the posterior capsule (Henning 1989).

Albania (286 CE).

Philologus was a “*M[e]d[i]co oculario*” from the Roman period whose inscription was found at Dyrrachium, which was ruled by Rome from 229 BCE to 286 CE (Nutton 1972, n. 3; Feugere 1988; Pansier 1906, p. 2).

In 1670, Evliya Celebi wrote that in the Albanian town of Elbasan, "There are 47 doctors and pulse takers...There are three eye doctors...There are quite a number of surgeons."

Belgium (476-).

A bronze needle, with the tip broken off, dating from the Roman period (50 BCE-476 CE), was found in the River Maas, near Maaseik (Limburg). It might be a cataract needle (Baker 2011). Length 15.6 cm. The other end is olivary. Excavated in 1968. (Heymans 1979, Figure 2, Item 5; Feugère et al. 1988, p. 35; Heymans and Janssens 1975, p. 76).

A bronze needle handle, dating from the imperial period (27 BCE-476 CE) was found at a burial site near Wancennes (Namur). It is considered a cataract needle. (Musée de la Société Archéologique; Künzl 1983, p. 70; Baker 2011; Milne 1907, p. 21; Hassel-Künzl 1980, p. 415).

In 1351, Master Jehan of Mainz passed through Tournai, and couched the cataracts of Gilles le Muisit, abbot of St. Martin (McVaugh 2001; Hirschberg 1985, vol. 2, p. 258; Singer 2011, pp. 136-46). Muisit wrote that he could then see “the sky, the sun, the moon, the stars”, but could still not read or write (McVaugh 2001). As the abbot had to endure 3 years of complete blindness before the itinerant surgeon happened to arrive from central Germany (Singer 2011, pp. 136-46), it is not clear that the procedure was well established even in Tournai.

Jean Ypermann (1295-1351) wrote about cataract couching in 1328, and frequently cited Benevoud (Grassus) (Truc 1907, p. 112).

In 1563, Valentine Russwurin of Germany, an “*oculiste*”, performed lithotomy and hernia surgery in Anvers (Schevensteen 1929). Russwurin subsequently performed cataract couching on his travels (Leffler 2021).

In 1569, the city council of Ghent required lithotomists, bonesetters, and cataract surgeons (“*Star stecher*”) to perform all operations in the presence of a physician and surgeon chosen by the patient (Marx 1970, p. 9).

In 1578, Maître Henrick Agricola, born in “*Bolsward en Frise*”, a lithotomist, hernia surgeon, and oculist, practiced in Anvers (Schevensteen 1929).

In 1590, “*Maître Jan Jeuris, Egyptien, né en Espagne*” practiced “*l’art de la chirurgie*” in Anvers. He did treat patients with “*des affections des yeux*” (Schevensteen 1929).

In 1595, Maître Jan Ruylen van de Vyvere, native of Bruges, lithotomist, hernia surgeon, “*oculiste, ophtalmiste*”, and surgeon practiced in Anvers (Schevensteen 1929).

In 1597, Maître Abraham Toupet, surgeon, lithotomist, hernia practitioner and “*oculiste*” successfully operated in Anvers on an 18-year-old who had been blind for 10 years from a

small skin inside the eye (“*une petite peau se trouvant à l’intérieur de l’oeil*”) so that he could distinguish gold from silver. Toupet also cured a 54-year-old widow who had been affected for 4 years by “*une pellicule à l’intérieur de l’oeil*” (Schevensteen 1929).

In 1609, Maître Jorien Pibbes, surgeon of Amsterdam, lithotomist, “ophtalmiste”, and hernia surgeon practiced in Anvers (Schevensteen 1929).

In 1609, Maistre Franchoy Dandeleer, “maistre opérateur et médecin chemicque” treated a patient blind from “la catarat” in Anvers (Schevensteen 1929).

In 1610, doctor Hans Hanssone Bosche of Magdebourg, an “oculiste”, lithotomist, and hernia surgeon operated in Anvers on a widow, returning her vision after 8 years of blindness (Schevensteen 1929).

In 1611, Maître Jacques van Daelhem, alis Huybrechts, native of London and resident of Valenciennes, lithotomist, hernia practitioner, “oculiste” and surgeon practiced in Anvers (Schevensteen 1929).

In 1611, Maître Cornelis Cornelissone de Heusden, lithotomist, “oculiste”, hernia practitioner, and surgeon practiced in Anvers (Schevensteen 1929).

In 1686, Raussin, an oculist, practiced in Brussels, after completing a tour of Namur, Liège, Maestricht, Tirlemont, and Louvain. In 1688, he was again in Brussels, after returning from a trip to England and Holland, accompanied by his son, who was also a surgeon. The father remained in Brussels, while the son “le sieur Billoë, maître chirurgien” went to Ghent. They advertised that “Ils abattent les cataractes de ceux qui en sont aveugles, traitent adroitement toutes les maladies deux yeux, et en mettent des artificiels aux borgnes qui ressemblent aux naturels.” (Schevensteen 1924, pp. 5-6) A younger Raussin surgeon practiced in Belgium between 1726 and 1749 (Schevensteen 1924, pp. 5-6).

In 1710 and 1711, an anonymous oculist who claimed to be “Operator of His Royal Majesty of France” (“*Operator van Syne Konincklycke Majesteyt van Vranckryck*”) practiced in Ghent (Schevensteen 1924, p. 6-7).

On September 3, 1717, Servatius Cyprianus advertised in the Gazette van Antwerpen that he resided in Louvain, and was an “Opérateur, ende Oculist” (Schevensteen 1924, p. 7).

On May 9, 1718, “Le Sieur des Fontaines, Docteur, Oculist” advertised in the Gazette van Gent his aromatic drops of England, which helped with kidney stones, stomach pains, headaches, asthma, and other ailments (Schevensteen 1924, p. 9-10).

On Aug. 14, 1719, John Thomas Woolhouse of England, who resided in Paris at the Royal Hospital for the 300 Blind, advertised his Parisian practice in the Gazette van Gent (Ghent). He mentioned that he had demonstrated cataract surgery for the Tsar of Moscow (Peter the Great). He had previously advertised in this Ghent newspaper in December 1718 (Schevensteen 1924, p. 7-9).

On Feb. 3, 1720, Joannes Thomas Feldhof advertised in the Gazette van Antwerpen that he was a High German eye master and operator (“*Oogen-meester, ende Operateur*”), who recently arrived, and had healed 20 people from blindness, including a woman of 80 years

and a man of 60 years, both of whom had been blind for a long time, and a boy of 12 years who had been born blind, and was made to see within a few hours (Schevensteen 1924, p. 10).

Between 1722 and his death in 1749, Joannes Schauwermans, an oculist, practiced in Malines (Mechelen). He was the son of Joan Daniel Schauwermans, a surgeon in Cologne. His sister Catharina practiced as an oculist in Holland, and advertised in the *Gazette van Antwerpen* in 1755 and 1756. Catharina was married to Valentin Rothermel, who came to Antwerp in 1739, and published advertisements in the *Gazette van Gent* in 1739 and 1741. Joannes' daughter, Catharina Isabella, also practiced as an oculist in Malines, and advertised there in 1775 (Schevensteen 1924, p. 10-11).

In 1725 and 1726, D.P. a "noble gentleman" distributed an eye water, for free to the poor, in Ghent and Antwerp (Schevensteen 1924, p. 11-12).

On Feb. 4, 1729, André Ramthum, oculist, lithotomist, and hernia specialist, advertised in the *Courrier des Pays-Bas* of Bruxelles that he had practiced in Liège for 10 years. He was of Swedish-German origin and was the son of the physician to the King of Sweden. Within the span of two "Paters" (prayers) he could cure the blind or deaf (Schevensteen 1924, pp. 12-13).

In February 1735, the oculist John Taylor, of England, announced from Paris that he would arrive in Brussels on Feb. 19. A few days later, he practiced in Amiens and then Lille. He arrived in Brussels on March 19, in Liège on April 16, and Cologne on April 23. In Sep. 1749, Taylor practiced in Amsterdam, and in October, he practiced in Utrecht, Antwerp and Brussels. He returned to Belgium (Liège, Brussels, Ghent, and Antwerp) in the winter of 1757-1758. After a trip to France, Taylor returned to Brussels around September 15, 1767, practicing there at the same time as the oculist Baron de Wenzel. Both advertised side by side in the *Courrier des Pays-Bas*. On Sep. 28, 1767, Taylor advertised that he had performed an artificial pupil on the son of an apothecary in Mons. He also practiced in Bruges, Ghent, Antwerp, and Leuven that fall. On Oct. 15, 1767, Taylor advertised that Daviel (who had died in 1762) was merely his student and imitator (Schevensteen 1924, pp. 13-23).

On July 24, 1736, Nicolaus Nester advertised in Antwerp that he was born in Burssels, and specializes in curing eye diseases. He cures all spots and cataracts on the eyes. The Antwerp request book stated that Nester had practiced there for 15 months as of Feb. 6, 1736. In 1756, Nicolaes Nester, an oculist established at Anvers advertised that he had a remedy for urinary stones (Schevensteen 1924, p. 23-24).

On Mar. 6, 1741, "Sr. Isacie, Meester Chirurgien ende Oculist" of Ghent advertised that he treats cataracts and all surgical ophthalmic conditions. He also can make bandages for hernias and braces for children with crooked legs or knees (Schevensteen 1924, p. 24-25).

From Oct. to Nov. 1748, the oculist Joseph Hilmer practiced in Antwerp. He subsequently practiced in September 1764 in Antwerp. In Jan. 1771, he was in Liège, preparing to come to Brussels. In mid-Feb. 1771, Hilmer was in Ghent before moving on to Paris. In 1773, he was in Dordrecht, and planned to travel to Antwerp and Brussels. In Feb. 1776, he wrote

that was in Liège and would soon arrive in Antwerp. He only accepted payment after successful treatment, treated the poor for free, and only operated in the presence of doctors and surgeons (Schevensteen 1924, p. 25-28). Hilmer also practiced in the British Isles (see that chapter).

In April 1749, Henri Meiners, an itinerant oculist, practiced in Brussels, and announced that he had just returned from a tour through England, France, Switzerland, Italy, Turkey and Germany. In Sep. 1750, he appeared in Ghent, having just practiced in Paris. He invited doctors and surgeons to attend his operations in the Town Hall, in the presence of the Magistrate. He cared for 20 patients there. The congenitally blind child of Lucas Eeckhaute was cured by an operation. Meiners published three ophthalmic works in Italian (Schevensteen 1924, pp. 28-29).

In June 1751, Guillaume-Constantin Laasser, a surgeon and oculist, arrived in Antwerp. Laasser was originally from England, and had been the chief surgeon to the hussars, and the oculist to the Elector of Bavaria. In 1750, he practiced in Marseille, Aix, Avignon, and, by September 14, in Montpellier. In Antwerp in 1751, he sold a cure for all visual defects, and planned to go to Holland, Bergen-op-Zoom, and Middelburg. In June 1753, Laasser stayed in Brussels for two weeks, and performed several operations, before travelling to Dendermonde and Ghent. He stated that he cured blindness in just 3 minutes, permitted the deaf to hear, and cured hernias in 15 days without surgery (Schevensteen 1924, pp. 29-30).

In May 1754, Joannes-Dominicus Sacré advertised in the Gazette van Antwerpen that he removed cataracts from people of all ages, and offered free care to the poor. Sacré was mentioned in legal documents as a potential expert witness in a case of the oculist Catharina Schauwermans, (Schevensteen 1924, pp. 30-31).

Between 1759 and his death in 1790, the oculist Baron Michel-Jean de Wenzel practiced intermittently in Belgium, as he passed between Paris and England. In June 1759, Wenzel advertised in Antwerp, and in December of that year, in Brussels. The parish priests were invited to send him their poor blind patients. In October 1767, he passed through Brussels, Alost, Ghent, Kortrijk, and Lille. In 1768, Wenzel again passed through Lille, Brussels, The Hague, and Amsterdam. In early 1770, he practiced in Bruges, Lille, Bethune, and Saint-Omer. In May 1772, he announced in Belgium his return from St. Petersburg, where he had been called (Schevensteen 1924, pp. 31-37).

In June 1761, J.-A. Kuhn, a German operator and oculist, advertised in Ghent. He practiced at his open air booth, which he called a theater. After practicing in Bruges for some time, he settled in Ostend. He treated the poor free of charge (Schevensteen 1924, p. 37).

From 1762 to 1767, surgeon François Étienne, from Cognicochi near Maubeuge (France) advertised in Brussels a topical remedy "Esprit Impérial" for ocular diseases and migraines (Schevensteen 1924, pp. 37-38).

In October 1764, the oculist Sr. de Cherville advertised in Antwerp that he would soon arrive there from Liège, where he treated the poor for free the first 3 days of the week (Schevensteen 1924, p. 38).

In 1791, the oculist J.-B. Lefebure advertised in Ghent that he practiced in Aalst. It is not known if he is related to G.-R. Lefebure (see below) (Schevensteen 1924, p. 63).

In 1804, the oculist Guillaume-René Lefebure, Baron de Sainte-Ildefont, advertised in Antwerp. G.-R. Lefebure was born in Saint-Croix-sur-Orne in 1744. He joined the king's cavalry in 1769, but quit the military to pursue medicine. In 1775, he published a book in Paris on treating venereal diseases with chocolate. In 1778, he practiced in England (see England). In 1785, he was a physician at Versailles, and professor of syphilitic diseases and gynecology. In 1790, he practiced in Holland, Germany, and Italy. In 1793, he practiced in Turkey. In 1794, he was in Budapest and perhaps Egypt. In 1798, he published in Frankfurt a book about treating hernias. He returned to France in 1801, where he published a treatise on gutta serena, and then practiced in Munich, Augsburg, and Frankfurt. As noted, he advertised in the *Antwerpsche Gazette* on May 11, 1804 that he had just arrived in Antwerp after performing brilliant operations in Brussels. He opens the membranes of the eye, and removes spots and films. He also has artificial eyes, and glasses that preserve life, and others that can be used after cataract surgery. He also has hernia bandages. He intended to practice in Bruges, Ostend, and Ghent. In May 1809, he practiced in an Augsburg hospital which was treating wounded soldiers, but he contracted typhus, and died in July 1809 (Schevensteen 1924, p. 63-66).

Bulgaria (600-).

A cataract needle from Roman antiquity (15-600 CE) was found in the imperial tombs of Odessos (Varna, Bulgaria) and has a stylus-like shape and a spherical thickening behind the tip. The needle might have been associated with a doctor. (Hassel and Künzl 1980; Tontchéva 1961, pp. 39-40, Plate X, Figs. 58 and 60). Künzl (1983, p. 114) believes the illustration is too imprecise to be sure of its function (Meyer-Steineg 1912, Table 8, 10).

In 1469, Amirdovlat Amasiati practiced in Philipopolis (current Plovdiv) (see Turkey).

Austria (1326).

In 1326, Princess Isabel, daughter of James II of Aragon, wrote to him from Graz indicating that she had a cataract ("cateractam", McVaugh 2001). James II promised to send an ophthalmic specialist because the doctors in Graz were not very familiar with this condition, but James II died the next year before he could do this (McVaugh 2001). The oculist Jaume Roca of Aragon did travel to Graz to treat the princess in 1330, but she died before his arrival (Cardoner i Planas 1973, p. 174).

The minutes of the University of Vienna cover examinations of healers from 1399 to 1724, in 6 volumes, as reviewed below.

In 1453, an "Augenwasser" was sold in Vienna by Arztes Stephan Pernolt de Greding (Senfelder 1904, p. 43).

On March 28, 1539, “Mag. Casparis Ingolstadiensis” (Master Caspar of Ingoldstadt) who was an eye specialist (“*ocularii medici*”) asked to be examined by the Vienna faculty with respect to curing cataracts (“*curam suffusionum*”) by paracentesis (“*paracentesis*”). Caspar was approved, paid a fee, and was given a testimonial written in the vernacular (Schrauf 1904, vol. 3, p. 215; Senfelder 1904, p. 247). This is the first mention of cataracts or couching in the Vienna archives.

On Aug. 13, 1539, “Mag. [Master] David” an empiricist (“*empiricum*”) presented to the Vienna faculty his offer to operate on the public for cataracts and hernias (“*doctors in cataracta et herniis operas*”) (Schrauf 1904, vol. 3, p. 217). This is the first use of the term “*cataracta*” in the Vienna archives.

In 1550, Heinrich Vogtherr the Elder (1490-1556) was appointed Imperial oculist to King Ferdinand. He died in Vienna (see Germany).

On Dec. 30, 1558, Paulus Propffer was examined and approved for excision of stones, growths, and external afflications of the eyes (“*oculorumque externis affectibus*”) (Senfelder 1908, vol. IV, p. 2).

In September 1562, an itinerant surgeon, Christoff Leeb, who called himself a “Leibarzt” was examined by the Vienna faculty. He was permitted to treat syphilis using only external medications, treating hernias by incision, and treating wounds. However, he was forbidden from practicing ocular medicine (“*Ocularem vero medicinam*”), or from providing purgative or internal medicines. He was disappointed at the limits placed on his scope of practice, but paid the fee and received a certificate (Senfelder 1908, vol. IV, p. 35).

On Sep. 2, 1563, “Christoff Holtzschueher”, an “*empiricum*” was examined by the Vienna faculty with respect to “*sectione herniarum* [hernias] *et calculorum vesicae* [bladder stones], *curandis oculorum suffusionibus* [curing cataracts],”, called in the vernacular “*Sternstechen*”, and curing “*morbi gallici*” [French disease]. This is the first mention in the Vienna archives of a variant of “*Sternstechen*” (or *Staar*) to represent cataract couching. Holtzschueher was deemed worthy, paid 3 florins to the faculty, and received a testimonial letter (Senfelder 1908, vol. IV, p. 47). On May 14, 1568, a faculty member proposed that the book on eye diseases (*oculorum morbis*) by “Holtzschuher” be reviewed by the dean, Dr. Bartholomeo Reisacher, to see if it was worthy of publication (Senfelder 1908, vol. IV, p. 108). On June 25, 1568, Reisacher presented the book by Holtzschueher, and declared it unworthy of being published, and that Holtzschueher was ignorant in this field (Senfelder 1908, vol. IV, p. 111). On Feb 6, 1573, the faculty discussed Christoph Holtzschueher, who, it was noted, had previously been admitted to practice in just 3 areas of care, but had subsequently publicly distributed a paper falsely claiming to cure almost all diseases, and to diagnose based on temperaments, pulse, and urine. The faculty ordered that Holtzschueher be summoned, and reprimanded, and that his shameful actions with respect to both his own wife and someone else’s wife be discreetly mentioned. All copies of his advertisements were to be demanded from him under oath, and he was not to practice any treatment for any disease in the future (Senfelder 1908, vol. IV, p. 242-3). At the faculty meeting on Feb. 19, 1573 called to discuss the charlatans, Christophorus Holtzschueher unexpectedly showed up, not realizing that the faculty were convened, but when he saw

everyone, he quickly went away (Senfelder 1908, vol. IV, pp. 244-5). On May 10, 1576, Christophori Holtzschuër petitioned the authorities to practice in Vienna once again (Senfelder 1908, vol. IV, p. 299). By June 22, 1576, it was reported to the authorities that Holtzschueher had publicly practiced his trade at the recent fair at the Vienna court, and was roaming around the city, and the faculty requested the authorities to take appropriate action against him, based on the previous order (Senfelder 1908, vol. IV, p. 300). On Aug 16, 1576, a report concerning Holtzschueher was submitted to the authorities (Senfelder 1908, vol. IV, p. 301).

Where was Holtschueher when he was not in Vienna? We might wonder if he is the same as Christoph Aschauer, who on April 11, 1569 sought permission to practice as a “Stainschnitt [lithotomist] und Augenarzt aus Österreich” in Leoben, where he was said to have practiced until his death in 1577 (Huber Reismann 2009). Leoben is considered the first eye surgeon in Leoben, where he bought property and was made a citizen (Huber Reismann 2009).

On Aug. 23, 1564, Paulus Fechler was examined by the Vienna faculty in the treatment of ringworm, urinary stones, hernias, cataracts (*suffusionum*), and cleft lip, was approved, and paid 3 florins (Senfelder 1908, vol. 4, p. 59).

On July 9, 1568, Joannes Graff from Brunswick was examined by the Vienna faculty in the operation for bladder stones and growths, and curing cataracts (*suffusionis cura*), was approved, and paid three talers (Senfelder 1908, vol. 4, p. 111).

On Dec. 20, 1568, Wolf Quirin was examined by the Vienna faculty. He had a “collyrium” which cured all ailments of the eye “*oculorum*”. As he did not distinguish between different types of eye ailments, the faculty deemed his treatment dubious (Senfelder 1908, vol. 4, p. 120).

On Aug. 13, 1569, Henricus Hoff of Minden, Westphalia, was examined by the Vienna faculty with respect to hernias, lithotomy, operations on goiters and tumors, and in depressing cataracts (“*depositione suffusionum in oculis*”). He was well-trained, dexterous, paid the fee and was issued a certificate (Senfelder 1908, vol., 4, p. 174).

On Jan. 12, 1570, the Vienna faculty stated that any “*Stainschneider, Franzosen- Augen o. sonst Wundtarzt*” who wished to practice must first be examined by the faculty, and could not prescribe internal medicines (Senfelder 1908, vol. 4, p.189). This is the first reference to Augenarzt in the Vienna archives.

On Feb 3, 1570, Jacob Khürbiss von Strassburg was examined by the Vienna faculty with respect to cataracts and inflammation (“*suffusionibus et inflammationibus*”). He was approved as long as he undertook no ocular treatments without the advice of a doctor. Later, the faculty discovered he had violated his agreements (Senfelder 1908, vol. 4, p. 192). Later that month, it came to light that Khürbiss had been demanding excessive fees from patients, and when he was summoned, he could not be found in the city (Senfelder 1908, vol. 4, p. 201).

In March 1570, Zebedaeus Kremniß von der Schweinig, residing in Kunighoffen in “Beham” (Bohemia), was examined on “*sectione calculi*, [lithotomy] *suffusionibus* [cataracts] *et aliis oculorum excrescentiis*, in *curationibus herniarum* [hernias], *fissuris labiorum* [cleft lips] *et tumoribus frigidis*”. He was approved and received a certificate after paying the faculty 3 florins (Senfelder 1908, vol. 4, p. 224).

On April 23, 1571, Hans Meylers (or Metzlers), a surgeon of Landtshuet, was examined by the Vienna faculty for operations on bladder stones, hernias, cataracts (“*suffusionum oculorum*”), and cleft lips. He was approved, took the surgeon’s oath, paid the fee to the faculty, and received a certificate in German (Senfelder 1908, vol. 4, pp. 268-269).

In 1572, Georg Müller, citizen and home-owner in Graz worked not only as a farmer, but also as a “Schnitt-, Wund- und Augenarzt” (Popelka 1960, p. 663).

On Nov. 12, 1577, Georgius (Georg) Bartisch (c. 1535 – c. 1607), an oculist and surgeon (“*Oculist, Schneid- und Wundarczt*”) from Dresden was rejected by the Vienna faculty and excluded from any examination, for unclear reasons (Senfelder 1908, vol. 4, p. 303). On Dec. 13, 1600, Georg Bartisch, oculist (“*oculista*”) and lithotomist, requested to stay in Vienna for several additional days, but the faculty refused. Bartisch appealed to the prince, who permitted him to stay for one more month. When Bartisch did not comply, a faculty member notified the consul, who did ensure Bartisch’s removal (Senfelder 1908, vol. 4, p. 550). On Jan 10, 1601, a local guild complained to the faculty about several physicians, including Bartisch, who infringed upon their privileges (Senfelder 1908, vol. 4, p. 555).

On May 10, 1577, Christophorus Stupl, of Schneeberg from Meissen, requested to be examined by the Vienna faculty in ocular cures (“*cura ocular*”), fistulas, cancers, hernias, etc. He had testimonials from princes, maritime cities, and the University and doctors of Rostock. However, the faculty refused to examine him as he had no permanent position in the province (Senfelder 1908, vol. 4, p. 308).

On Nov. 29, 1577, Thomas Ledirer, an itinerant, who practiced surgery for urinary stones, and curing cataracts (“*curam suffusionum*”), asked to be examined by the Vienna faculty (Senfelder 1908, vol. 4, p. 314).

On Feb. 5, 1578, the Vienna faculty established that any operators for urinary stones, and those who cure cataracts (*suffusionum curam*), if they do not sell drugs publicly or speak in the market, are to be heard and examined, and should demonstrate their skills, and if they are found competent, they should be approved. However, public testimonials would be provided, because previous such testimonies had harmed the reputation of the faculty (Senfelder 1908, vol. 4, p. 316).

On April 8, 1578, Carolus Münsterer, a citizen of Vienna, requested to be examined in the treatment of bladder stones, hernias, eye conditions (“*oculorum affectibus*”), and fumigation therapy. He had good answers and had previously performed his craft successfully in the presence of several doctors from the Vienna faculty, he was admitted after paying 3 florins (Senfelder 1908, vol. 4, p. 324). This is the first record in the Vienna archives of someone trained by the local faculty as curing eye conditions, although the specific procedures performed are not specified.

On May 19, 1580, when an (unnamed) lithotomist wanted to operate on hernias and remove cataracts (“*cataractas tollere*”) at the Civil Hospital, a member of the Vienna faculty was ordered to attend the operation, but the surgeon left without performing any procedures (Senfelder 1980, vol. 4, p. 330).

On June 18, 1580, Jacob Khrumppeneynni from Rackhenspur, Styria (Bad Radkersburg), requested to be examined for dental ailments so that he might be admitted as a citizen of Vienna. The doctors agreed to hear him only if the Viennese senate recommended him (Senfelder 1908, vol. 4, p. 331). On Jan., 15, 1597, Jacob Soldan Crumpeinaine, requested a certificate of his skill in treating eye diseases (*oculis curandis*) and dentistry. He was exhibiting three dried mummies for money at the market and asked for a certificate verifying that they were indeed human cadavers. The Vienna faculty unanimously rejected the request of this wandering charlatan, as he had not been examined and was arrogant (Senfelder 1908, vol. 4, p. 499).

In 1584, Marx Aichler worked as a “Schnit-, Wund- und Augendarztnei” in Graz, and also farmed there (Popelka 1960, p. 663).

On Dec. 8, 1588, Zacharias Leibiger, an eye doctor and stonecutter (“*augenarzt und Steinschneider*”) from Görlitz in Silesia, was reproached by the faculty of Vienna for posting advertisements without being examined, responded that he was unaware of the requirement (Senfelder 1908, vol. 4, p. 392-3).

In 1589, Sebastian Henenberger, “Stein- und Bruchschneider, Okulist, Leib- und Wundarzt from Konstanz practiced in Bludenz (Stadtarchiv Bludenz).

On Nov. 23, 1591, Michael Bachman, a “*Stein und Bruchschneider auch augenarzt*” from Jägerdorff (Krnov) in Schlessing (now Czech Republic) was granted permission in Vienna to sell medicines in the public market at the fair of St. Catharine. He sold “*collyrium et unguentum*” against paralysis (Senfelder 1908, vol. 4, p. 440).

On Jan., 5, 1593, Leonhart Erhart lithotomist and oculist (*oculista*) was examined by the Vienna faculty, in the care of the section of stones, hernias and suffusions of the eyes (*oculorum suffusionibus*). He was given a certificate to practice throughout Austria. On Jan. 11, 1593, Oswalt Erhart, son of Leonhard Erhart, also a lithotomist and oculist (*oculista*), was examined in the same way and received a certificate (Senfelder 1908, vol. 4, p. 455-6). The Erhart’s were also called “Stain schneider” (Senfelder 1908, vol. 4, p. 458). On Dec. 9, 1604, Oswalt Erhart, lithotomist and eye doctor (*ocularis medicus*) requested from Matthias, the archduke of Austria, letters of immunity so that he could practice throughout Austria, because provincials had been preventing him (Senfelder 1908, vol. 4, p. 596). On June 14, 1612, Osbaldus Erhardt of Freising in Bavaria, who had been examined 18 years previously and admitted as a “*lithotomiae magister et oculista*”, requested of the University of Vienna that his original testimonial letters be rewritten, but this request was rejected (Senfelder 1910, vol. V., p. 73).

On July 30, 1593, Michael Hochedlinger, a surgeon and lithotomist from Feldkirchen asked to be examined by the Vienna faculty. However, they believed he was a wanderer only seeking to have a certificate to publicly display at fairs, and refused to examine him

(Senfelder 1908, vol. 4, p. 460). On Mar. 8, 1596, Michael Hohetlinger, a surgeon specializing in removal of stones and hernias, requested of the Virginia senate to be admitted as a citizen, and of the faculty to be examined. On Mar. 9, 1596, he was examined with respect to removal of stones, hernias, and cataracts (*suffusionis*). It was noted that he used iron instruments. He passed the examination, but could not receive a certificate until he had been made a citizen (Senfelder 1908, vol. 4, p. 501-3). On June 21, 1602, Hohetlinger, a citizen and former surgeon, petitioned that all wandering surgeons and dissectors be barred unless they had been examined (Senfelder 1908, vol. 4, p. 569).

In 1597, surgeon Arsenius Mensurati of Norcia, Italy, settled in Graz, and was commissioned throughout the region of Styria (Huber Reismann 2009).

In 1598, Niclas Delphin from München settled in Graz, practicing as an oculist, lithotomist, and fracture doctor (Weiss; Fellner 1973, p. 4; Popelka 1960, p. 663).

On Feb 2, 1602, the Vienna faculty received a response from the senate indicating that an oculist (*oculistae*) wished to be examined, and the faculty asked the oculist if he wished to be examined, to which he assented, but never followed through with it (Senfelder 1908, vol. 4, p. 564, 566).

On Feb. 5, 1604, surgeon Marinus Marianus of Norcia petitioned for permission to treat hernias without incision in Vienna, as well as to extract stones and cure cataracts and pterygia (*curandi oculorum suffusiones et unguēs*). This request was initially denied by the faculty by a majority vote, but in a later assembly on Feb. 11, was granted to him temporarily (Senfelder 1908, vol. 4, p. 589-90).

In 1612, Johannes Kranich and Johannes Gutte were mentioned in Vienna in a negative light, as *“oculistae chirurgi et pseudomedici”* (Senfelder 1910, vol. V, p. 75).

On Feb. 1, 1613, “Thobiam Partisch” from Dresden, a “heretic”, and *“oculistam et chirurgum”* was imprisoned and ordered to pay a fine in Vienna for treating patients (Senfelder 1910, vol. V, p. 89). This was probably Tobias Bartisch, the son of the famous Georg Bartisch.

On March 1, 1613, Hannsen Gutte, *“chirurgum, oculistam et pseudomedicum”* was briefly imprisoned and fined in Vienna for loudly trying to sell remedies with antimony, and damaging the reputation of legitimate doctors (Senfelder 1910, vol. V, p. 90).

On Nov. 18, 1613, Joannes Engelhardt, the surgeon in the city’s hospital, petitioned the Vienna faculty to be examined. He brought his birth certificate. He lacked training credentials, but provided two guarantors. He was examined on Nov. 21 (Senfelder 1910, vol. 5, p. 95, 99). On June 16, 1627, surgeon Joannis (Johannes) Engelhard petitioned the Vienna faculty to appoint two doctors to assess the truth in a dispute involving fellow surgeon Joachim Hochfeld about ophthalmic care (*curam ophthalmicam*) regarding a woman’s eye (*foeminae oculo*). Dr. Henricus Massucus and Dr. Godefridas Hächlperger were appointed (Senfelder 1910, vol. 5, p. 215). On July 3, 1629, the Vienna faculty examined the work of the surgeon Englhart in treating the pupil of a woman’s eye (*pupilla oculilaesam*). The faculty concluded the treatment was appropriate (Senfelder 1910, vol. 5,

p. 221). On May 25, 1630, a soldier, Urbanus Hölzl, petitioned the Vienna faculty to examine the facial injury and burn on the jaw of his daughter, who had been treated for a long time by surgeons Englhardt and Hochfeldt. The faculty responded that the injury had been appropriately treated by Englhardt, although some scarring remained, and that it had not been improved by Hochfeldt (Senfelder 1910, vol. 5, p. 223). On Aug. 18, 1631, the imperial judge of Vienna requested that the faculty resolve a dispute regarding payment between surgeon Joannem Engelhart and a Vienna citizen whose wife Engelhart had treated for lacrimal fistula (*"fistula lacrymali oculorum curaverat"*). The faculty attempted to resolve the matter amicably, but because one party was stubborn, no agreement could be reached. So, the faculty sent the judge a letter that Dieterich, the patient's husband, should pay Engelhart 32 florins for labor and legal costs (Senfelder 1910, vol. 5, p. 230). In April 27, 1634, surgeon Daniel Becker was examined by the Vienna faculty. Becker had purchased the shop of Engelhardi, who had passed away (Senfelder 1910, vol. 5, p. 239).

On June 13, 1614, Jacob Winckler, an *"oculista"* asked the Vienna faculty to be examined. He was admitted on the condition that he would demonstrate the three manual operations, which was done (Senfelder 1910, vol. 5, p. 107, 110). However, on Jan. 9, 1617, it was noted that Jacobus Winkler, lithotomist, was publicly displaying the testimonial issued by the faculty in a disgraceful manner, and showing contempt for faculty members. The faculty decided that if he were guilty of such behavior in the future, he should be taken to the public prison by the constables until he promised in writing to renounce medical practice (Senfelder 1910, vol. 5, p. 131). At this time, the apothecaries submitted a petition to the faculty against Winkler for selling internal medicines at least twice weekly. The city council stated that because he was a citizen and had been privileged by the faculty, nothing could be done unless the faculty also complained. Winkler was summoned and instructed to return his testimonial, which he did. The faculty kept the testimonial, and he was instructed not to treat internal diseases (Senfelder 1910, vol. 5, p. 133). On Aug. 2, 1618, the surgeons and bathkeepers jointly accused Winkler of violating the laws of the faculty. As late as May 23, 1628, discipline against Jacobum Winkler was still proceeding in Vienna (Senfelder 1910, vol. 5, p. 218). Winckler at some point adopted an itinerant practice. Jacob Winckler, an *"Oculist, Stein: un[d] Bruchschneid"* who treated cataracts (*"Staar"*) of Vienna printed in a German handbill that he was licensed in Turkey, Poland, and both Upper and Lower Hungary (see Germany chapter).

In July 1614, Mathes Pöckh applied for citizenship in Salzburg as a *"Stein- und Schnitt-arzt"*, and presented documents signed by a prince to support this effort. In May 1615, Pöckh was granted citizenship as a *"Schnitt- und Augenarzt"* (Salzburger 1998, pp. 205-6).

In 1615, in Aflenz, Andreas Aumair (?), Fürstl. oculist, healer and surgeon, granted citizenship and free exercise of his profession (Wichner 1885, p. 21).

On Apr. 30, 1616, Angelus Mercatus (Angelo Mercato) of Italy, appointed *"lithotomus, herniarum sector et oculista"* for Archduke Ferdinand of Styria, Carinthia, and Carniola, requested permission to practice in Vienna. As he did not intend to sell medicines at public markets or treat other diseases, the faculty of medicine approved his request. Mercatus was called *"Stein vndt Bruchschneider auch Augenarz"* (Senfelder 1910, vol. V., p. 118-9).

In 1616, the petition of Joannis Pistorii (Johannes Pistorius), a “*lithotomi herniarum sectoris et oculistae*”, to practice was presented to the Vienna faculty, but they rejected the request because he was unqualified and spoke ill of other doctors (Senfelder 1910, vol. V., p. 122).

In Sep. 1616, Michael Hueber was examined by the Vienna faculty with respect to “*Augen curieren*”, among other conditions, but he only knew superstitious remedies for the eyes, and when his incompetence was exposed, he left the city (Senfelder 1910, vol. V., p. 126-127).

On Jan. 21, 1626, Joannes Jacobus Falk, an itinerant, requested to be examined by the Vienna faculty. The faculty originally declined, but Falk through persistent demands was able to get the personal physician to the emperor to intercede, and the faculty agreed to review Falk’s credentials. However, Falk only had some evidence of skill in cataract surgery (*cataractis detrusis*), and none in removal of stones or in hernias, so the examination could not be conducted (Senfelder 1910, vol. 5, p. 202).

On May 20, 1627, Christophorus a Sütphen, a notorious lithotomist, was discussed by the Vienna faculty. Sütphen had been advertising and selling an electuary against poison and theriac without the faculty’s permission. A faculty member had an official dissuade Sütphen from this practice. Sütphen petitioned the faculty and council to sell medicines and practice. The faculty advised him to be examined in the fields of ophthalmology (“*ophthalmica*”), lithotomy, and hernia surgery, but forbid him to sell medicines (Senfelder 1910, vol. 5, p. 214-215). On June 22, 1627, Christophorus a Sutphen once again petitioned to be examined by the Vienna faculty. He was examined and admitted, but his testimonial was given on non-official paper, with a clause inserted forbidding him from posting it in public. He paid 12 imperials (Senfelder 1910, vol. 5, p. 215). On March 17, 1629, the magistrate of Linz requested the credentials from the Vienna faculty of Christophorus de Sutphen, who was presumably in Linz (Senfelder 1910, vol. 5, p. 221). On May 25, 1630, Christianus Sutphen petitioned the Vienna faculty to practice there, but he was ordered to seek information from the faculty before proceeding (Senfelder 1910, vol. 5, p. 223).

In 1634, the “Oculist, Stein- und Bruchschneider” (oculist, lithotomist, and fracture doctor) Hans Jacob Fillinger settled in Graz (Popelka 1960, p. 663).

By 1645, the oculist Johann Georg Günther, of Liegnitz, who had certificates from the faculty in Vienna, had visited Frankfurt (see Germany).

In 1648, brothers Sigismondo and Caterino Carocci of Preci were awarded privileges by Emperor Ferdinand III for successfully couchign the cataracts of Empress Eleanora Gonzaga in Vienna (Davidson 2015).

In 1664 two oculists from Venice practiced in Graz (Popelka 1960, p. 663).

Giuseppe Francisco Borri (1627-1695) of Italy, a religious heretic, alchemist, and sometime healer. By 1669, Borri attributed the idea of cataract aspiration to an Italian surgeon named Rocco Mattioli, who served the archduke of further Austria, Ferdinand Charles

(1628 – 1662), whose court was in Innsbruck. Borri had been in Innsbruck himself in 1658 (Koch 2017).

In 1637, Jacob Eha, an “Oculist, Stein- und Bruchschneider” applied for citizenship in Salzburg, and 10 years later, had still not succeeded (“Salzburger” 1998, p. 205).

On Sep. 29 1629, Georg Gabriel, a dentist in "Rathenau" (Rosenaut) was sued in Zwettl by the oculist of Arbesbach, Leonhard Milandt, for posing as an “Oculist” at the public market. Gabriel claimed that he had learned the art from his father, but could not prove this. The judge ordered Gabriel to stick to dentistry (Weinrich 1990, p. 411).

On June 30, 1647, Paulus Datz, oculist (“*oculista*”) and lithotomist asked to be examined by the Vienna faculty (Senfelder 1910, vol. 5, p. 348). On July 10, Datz, described as oculist (“*oculista*”) and hernia doctor, was examined and admitted (Senfelder 1910, vol. 5, p. 349). On Aug. 8, 1649, Datz complained to the faculty because pharmacists had confronted him for selling medicines illegally, and they broke several glass bottles of his oils and spilled them in the mud. Datz insisted to the faculty that his oils be returned, but the pharmacists stated that everything had been lost when spilled. The faculty member noted that Datz had been approved to cure hernias, depress cataracts (*cataractis deponendis*), and extract stones, but had not been licensed to sell fake medicines (Senfelder 1910, vol. 5, p. 361).

On Nov. 28, 1650, Joannes Geutter, lithotomist and oculist (“*oculista*”) paid to be examined by the Vienna faculty (Senfelder 1910, vol. 5, p. 365).

In 1665, Evliya Celebi visited the hospitals in Vienna and lauded the excellent ophthalmologists in the city.

From 1653 to 1678, Jonas Jacob Hackl (also Johaimes) practiced as an “Oculist u. Bruchschneider” in St. Pölten (Weinrich 1990, p. 444). On June 21, 1663, Jonas Hackel, a citizen of St. Hyppolitum (St. Pölten), an oculist (“*oculista*”) and herniotomist, requested to be examined by the Vienna faculty (Senfelder 1910, vol. 5, p. 443). On Dec. 25, 1653, he asked at a council meeting for the privilege of selling his medicines for at least one hour during the weekdays. In 1658, he successfully performed a hernia surgery on a child. He died in 1678 (Weinrich 1990, p. 444).

On July 21, 1662, Joannes Jacobus Lindentaller “*oculista, lithotomus et herniotomus*” asked to be examined by the Vienna faculty. On August 2, he was examined and approved (Senfelder 1910, vol. 5, p. 427-8).

In December 1662, Regina Barbara Saurin complained to the Vienna faculty that the owner of a new bath had blinded (“*excaecasset*”) her son, who was suffering from a mild inflammation in the eye (“*fluxione oculi*”). The bath attended responded that he had only applied a poultice made from a bread roll dipped in milk, which the surgeon Neander confirmed. The explanation was presented to the mother, who appeared satisfied, for now (Senfelder 1910, vol. 5, p. 434).

On Dec. 12, 1665, Augustinus Schober “*oculista et lithotomus*” was examined and admitted by the Vienna faculty (Senfelder 1910, vol. 5, p. 453).

On May 10, 1666, Johannes Mangg of Augsburg, an “Oculist, Stein- u. Bruchschneider” got married in Anspang to a woman of that town. Mangg remained in Anspang until at least 1668 (Weinrich 1990, p. 592).

On June 21, 1668, Georg Michelbekh, along with his itinerant associate, petitioned the Vienna faculty to be allowed to sell theriac and balsam and requested a certificate, but this request was denied. On Jan. 18, 1672, Michelbeck requested to be examined by the Vienna faculty as an oculist (“*oculista*”) (Senfelder 1910, vol. 5, p. 472, 492).

On May 19, 1669, Georgius Weiss, “*oculista et litotomus*” asked the Vienna faculty for a testimonial, but because he arrogantly claimed excessive titles, it was decided to deny him altogether or give him a certificate with lesser distinction (Senfelder 1910, vol. 5, p. 481). Weiss subsequently became embroiled in a dispute in Vienna in 1679. On Oct. 28, 1679, Joseph Toscanus was summoned to the Vienna faculty regarding his Orvietan electuary. The faculty found Toscanus’ potion to be ineffective, and even harmful during the time of plague, but he had received an imperial privilege based on a testimonial from the dean of the Medical College of Prague. The lies told by Toscanus in the theater provoked Georgium Weis “*oculistam et lithotomum*” to request of the Vienna dean a license to sell his own theriac, which had already been approved by the Vienna faculty. The dean provided this license. Weis set up a booth opposite that of Toscanus, and the two argued. During this argument, Toscanus was struck by a rock and seriously injured. The Vienna dean thought Weis was innocent because someone else had thrown the rock, but the authorities arrested Weis, nonetheless, and fined him (Senfelder 1912, vol. 6, pp. 18-19).

On Aug. 16, 1669, an (unspecified) oculist (“*oculista*”) and lithotomist requested to be examined by the Vienna faculty (Senfelder 1910, vol. 5, p. 481).

On Sep. 3, 1669, Adamus Günter was examined by the Vienna faculty on the topics of herniotomy and cataracts (*cataraclitis*) (Senfelder 1910, vol. 5, p. 481).

On June 8, 1672, Andreas Zettl, oculist (“*oculista*”) and lithotomist from Salzburg, highly recommended by the physicians there, was examined by the Vienna faculty, but was found to have no theoretical knowledge and only mediocre practical skills (Senfelder 1910, vol. 5, p. 496).

On July 27, 1673, Antonius Mensurati was examined by the Vienna faculty as an “*oculista*”, lithotomist, and hernia surgeon (Senfelder 1910, vol. 5, p. 504).

On Nov. 27, 1673, Johannes Müller, an “Oculist, Stein- u. Bruchschneider” was examined by the Vienna faculty (Senfelder 1910, vol. 5, p. 505).

On Sep. 2, 1675, Leodegarius Hikhelscherer “Oculist, Stein- vudt Bruchschneider” was examined by the Vienna faculty (Senfelder 1910, vol. 5, p. 511).

On Jan 30, 1676, Hanss Michell Schober from the city of Egenburg who had been recommended by the senate of Egenburg as an oculist and surgeon (“*Oculist vndt Wundtary*”) was examined by the Vienna faculty. In Vienna, he responded quite poorly regarding theory, but his manual operation skills had a firm foundation (Senfelder 1910, vol. 5, p. 519; Crystal 1994).

On June 29, 1676, Joannes Petrus See, born in the Palatinate town of Rundting, now a citizen of Tölz in Bavaria, was a “*litho- et herniotomus atque oculista*” who was examined by the Vienna faculty, and admitted (Senfelder 1910, vol. 5, p. 539).

In 1679, Pudlers Johann Andre was an examined and approved “Okulisten, Stahrnstecher, Schneidt-, Wund- und Pestilenzarzten [pestilence doctor]” (Senfelder 1912, vol. 6, p. 487).

On June 30, 1682, Leonhardus Sigismundus Cleusell, an “oculista, lithotomus et herniarum sector” from Leipzig was examined by the Vienna faculty (Senfelder 1912, vol. 6, p. 39).

On Dec. 4, 1683, Petrus Harnisch, described as a non-Catholic “*oculista*” was examined by the Vienna faculty with respect to ophthalmic surgery (“*chirurgiam oculorum*”), lithotomy, and hernia surgery (Senfelder 1912, vol. 6, p. 46).

Between 1684 and 1716, Johann Franz Habermann, the “oculista et operator” practiced in Graz (Wichner 1885, p. 9). From 1721 to 1726, Habermann advertised in Graz in the Posttäglich-Grätzerisch-Außfliegender Mercurius as an operator, who in 1721 had restored the vision of a local 65-year-old citizen who could now recognize the smallest writing (Fellner 1973, p. 5). Habermann announced in 1722 he would again visit Hungary (Fellner 1973, p. 5). On Oct. 21, 1721, the issue of “Posttäglich-Gräzerisch Ausfliegenden Mercurius” from Graz announced the successes of the surgeon Habermann (Huber Reismann 2009).

On Dec. 28, 1685, Godefridus Marquardus from Lignitz, Silesia, petitioned the Vienna faculty for examination in the “*arte ophthalmica et lithotomica*” (Senfelder 1912, vol. 6, p. 51). This might be the Marquardt who practiced in Königsberg with 10 actors in a theater in 1687 (see Königsberg). On Nov. 23, 1692, the oculist (oculista) Marquart was summoned because he and his associates were mocking the local doctors in the public theater. He was reprimanded and forbidden from taking the stage. However, after lengthy pleas and a public retraction, he was only required to pay a fine of 6 imperial florins (Senfelder 1912, vol. 6, p. 124). On Jan. 22, 1711, Heinrich Gottfried Durich, a lithotomist, herniotomist, and “*oculista*”, was presented by Marquard, a herniotomist from Vienna (Senfelder 1912, vol. 6, p. 250).

On Dec. 23, 1686, Joannes Fridericus Tillmann from Freiburg in Breisgau, now a citizen of Biberach, an “*ophthalmicus*”, lithotomist, and hernia specialist, was examined in Vienna (Senfelder 1912, vol. 6, p. 59). On June 7, 1687, Joannem Fridericum Tillmann, “*ophthalmicum*” was forbidden by the Vienna faculty from selling *Orvietani Helveti*, an antidote, because another practitioner complained that he held the exclusive license (Senfelder 1912, vol. 6, p. 61).

At the end of May 1689, an empiricist in ophthalmic treatment (*empyrico oculorum*), hernia, and urinary stones boasted of being a physician, and was granted a license to practice solely during the Pentecostal fair. However, he remained in Vienna several weeks after the fair had ended, did not leave when warned, and was arrested and imprisoned by the city officials until he paid the fine imposed on him (Senfelder 1912, vol. 6, p. 72-73).

On May 10, 1690, Johann Jacob Metzger from Benfeld in Alsace, an oculist (*“oculista”*), herniotomist, and lithotomist, was examined by the Vienna faculty (Senfelder 1912, vol. 6, p. 79).

On May 3, 1691, Marcus Kircher from Taufers in Tyrol, an *“ophtalmicus”*, lithotomist, and herniotomist, was examined and approved in Vienna, with the condition that he practice anatomical studies (Senfelder 1912, vol. 6, p. 99). On Aug. 18, 1702, Johannes Georgius Adamus Kohn, an *“oculista”*, hernia surgeon, and lithotomist from Würzburg in Franconia, was examined in Vienna. He was presented by Johann Jacob Mözer and Marcus Kircher, masters of the same art. (Senfelder 1912, vol. 6, p. 172). On Oct. 20, 1705, Jacobus Kircher, *“oculista”* was examined in Vienna (Senfelder 1912, vol. 6, p. 183). On Dec. 30, 1707, Johann Carolus Daniel Carin, a dentifrice maker from Nysa in Silesia, was examined and approved regarding his medicines for worms, and a tooth-whitening powder, although he was warned not to administer purgatives. Carin was presented by the senior *“oculista”* Kircher (Senfelder 1912, vol. 6, p. 187). On Mar. 22, 1711, Nikolaus Riedl, a bathkeeper from Schwechat, and Matthias Görzlehner, an Austrian from Zwettl, a lithotomist, herniotomist, and *“oculista”*, were presented by Matthia Kurcher, the provincial oculist (*“oculista provinciali”*) (Senfelder 1912, vol. 6, p. 250). On July 22, 1715, Johannes Michael Casparus Melica, *“oculista”*, hernia, and lithotomy specialist, was examined in Vienna, and was presented by the Senior Kirchner (Senfelder 1912, vol. 6, p. 362-3). On July 21, 1717, Marcus Kircher, the state oculist (*statuum oculista*) protested against recognition of Joannis Danielis Karin and other dentrifrice-makers, and requested admission of himself and his son in a professional group in Vienna (Senfelder 1912, vol. 6, p. 358, 393).

On May 16, 1692, Johannes Theodorus from Aichenberg, an oculist (*oculista*) and lithotomist, was examined by the Vienna faculty (Senfelder 1912, vol. 6, p. 122).

On Nov. 8, 1692, Wilhelmus Dornerinskhi, an oculist (*“oculista”*) and lithotomist, was examined by the Vienna faculty (Senfelder 1912, vol. 6, p. 123).

On Nov. 29, 1695, Christianus Helm, a Saxon *“lithotomus et oculista”* was examined in Vienna, but was denied because he did not have the proper academic credentials (Senfelder 1912, vol. 6, p. 142, 150). On Mar. 18, 1714, it was noted that *“Hellmann”*, a Saxon Lutheran had been approved more than 20 years ago, and had promised to adopt the Catholic religion. Despite being frequently admonished, he illegally practiced as a non-Catholic, and exceeded his professional limits, by taking on internal cases. In 1714, he was forced to surrender his privilege, and due to heresy, he was imprisoned for several weeks. Finally, he received religious instruction and professed his new faith. Rather than restoring his doctors' privilege book bound in silk, another simpler document was provided to him (Senfelder 1912, vol. 6, p. 347-8). On Oct. 9, 1714, Christianus Hellman (Hellmont), an *“oculista”* and herniotomist, presented the Vienna dean with a catalogue of his supposed knowledge. He claimed that he could quickly and safely cure various internal ailments, such as headaches, vertigo, urinary retention, kidney and bladder stones, venereal disease, etc. He offered the dean a gold coin and requested permission to have this catalogue printed by a typographer, but he was immediately refused (Senfelder 1912, vol. 6, p. 362, 369, 380).

On Feb 3, 1695, Joannes Conradus Molitor oculist (*oculista*), lithotomist, and hernia surgeon, was examined by the Vienna faculty (Senfelder 1912, vol. 6, p. 133).

On July 11, 1695, Joannes Fridericus Brandt “ophthalmicus”, lithotomist and hernia specialist, was examined in Vienna. Brandt also accused another lithotomist and hernia specialist, of having false testimonials (Senfelder 1912, vol. 6, p. 143).

On Aug. 4, 1695, Joannes Jacobus Buraus, an “*oculista, lithotomus et herniotomus*” arrived in Vienna from Ulm and was examined (Senfelder 1912, vol. 6, p. 135).

On Nov. 9, 1695, Carolus Pifer lithotomist, hernia specialist, and “ophthalmicus” was examined in Vienna (Senfelder 1912, vol. 6, p. 143).

In April 1699, Andre Conrad Goldt, an “Oculist und Schnittarzt” requested to practice in Bramberg, Mittersill district, but his request was rejected (Salzburger 1998, p. 205-6).

On Nov. 13, 1702, Joannes Michael Baumgarten from Naumburg am Gweiss (Nowogrodzic) in Silesia, an “*oculista, hernio- et lythotomus*” was examined in Vienna. With regard to the ophthalmic art (*artem ophthalmicam*), he was approved by all, but for hernia and lithotomy operations, he was required to refrain from undertaking a serious operation without the presence of a mentor (Senfelder 1912, vol. 6, p. 172-173). On Apr. 24, 1723, Joannes B. Baumgarten “oculista”, lithotomist, and hernia specialist from Schwaz in Tyrol, residing in Salzburg, having completed his training with Joseph Kogler in Klagenfurt in 1710, was presented to the Vienna faculty (Senfelder 1912, vol. 6, p. 473).

On Oct. 22, 1705, Gottfrid Truchner, “*oculista*” was examined in Vienna. (Senfelder 1912, vol. 6, p. 183).

On Oct. 23, 1705, Franciscus Rotthamer, “oculista” was examined in Vienna (Senfelder 1912, vol. 6, p. 183).

On June 4, 1710, Johann Friedrich Fromer, an “oculista”, lithotomist, and hernia healer, was examined in Vienna (Senfelder 1912, vol. 6, p. 236).

On Oct. 14, 1710, Zacharias Florian Juth, the “*oculista*”, lithotomist, and hernia healer, residing in Olomouc, was examined in Vienna (Senfelder 1912, vol. 6, p. 236).

In 1711, Matthias Gerixlechner was a certified “Okulist, Stein- u. Brachsneider” in Vienna. He had been born around 1685-90 in Zwettl. On May 4, 1711, he received a birth certificate from the council of Zwettl, likely for the purpose of marriage and gaining citizenship in Vienna (Weinrich 1990, p. 420).

Johan Heinrich Thilenius (1696-1766) of Amsterdam advertised in the Mercurius in Graz on March 26, 1735. He had traveled to the East and West Indies (Fellner 1973). He had worked as a ship’s doctor out of Amsterdam in Honduras, Java, Sumatra, Borneo, Persia, and the Arabias (georgandagathe.org). Thilenius had settled in Eddigehausen by 1745, when his son was born.

On Jan. 29, 1712, Matthias Berger (also Perger), an “Okulist, Stein- u. Bruchschneider” in Zwettl received payment for treatment of a poor boy in the town hospital (Weinrich 1990, p. 274).

On Apr. 8, 1715, a decree from the Vienna faculty stated that “oculistas”, hernia specialists, lithotomists and similar practitioners should practice only within their own spheres and should not treat internal diseases (Senfelder 1912, vol. 6, p. 350).

On Mar. 20, 1715, Samuel Göttner from Nikolsburg, Moravia, was examined by the Vienna faculty on ailments of the teeth and hernias, and was presented by Godefrido Dauchert, “*oculista*” and hernia specialist (Senfelder 1912, vol. 6, p. 362-3).

On July. 26, 1715. Joannes Jacobus Brand from Strasbourg, a Lutheran, was conditionally examined as an “*oculista*”, hernia, and lithotomy specialist, with the stipulation that he was not permitted to remain or practice in Vienna, especially because he was not Catholic, except during fairs or if called to the city by someone in need of his services (Senfelder 1912, vol. 6, p. 363).

In January 1716, Antonius Schmidtl, 23 years old, a Bohemian by birth and a soldier under the command of Bonneval, was afflicted with an eye condition involving inflammation, burning, and tearing. The surgeon of his company applied an ophthalmic water (*aquam ophthalmicam*) and placed a blister, but without effect. Eventually, the surgeon inserted some kind of instrument into the eyes, causing additional pain, and swelling and closure of the eyelids. The soldier was discharged and arrived in Vienna completely blind and needing to be guided with a staff. Then, on Jan. 26, 1717, after being led by a boy to a Vienna church, the soldier fervently prayed for 3 hours, and his closed and hardened eyelids softened to such an extent that he could open them and see, albeit dimly, the image of the Blessed Virgin. From that time, the pain began to decrease daily, and his vision gradually returned, to the point that he was able to read German text. The church father sought the opinion of the Vienna faculty on whether this improvement constituted a miracle. The faculty could not examine the surgeon’s notes because he had died. The faculty examined the soldier and determined that it was natural that his vision should improve as he left the turmoil of war, and enjoyed a quieter environment, and a diet with nutrition not as poor as in the camps (“*diaeta non ita prava velut in castris nutritum*”). In addition, the faculty could still discern some residual traces of the disease on the “*cornea*”. Nonetheless, the faculty did not wish to deny that “there may have been an extraordinary intervention of divine goodness, through the intercession of the Blessed Virgin as the protector of the sick” (Senfelder 1912, vol. 6, p. 381-2).

On Aug. 8, 1718, Valentin Pez, an “*oculista*”, lithotomist, and hernia specialist, was presented to the Vienna faculty by Taucher (Senfelder 1912, vol. 6, p. 401).

On Sep. 25, 1720. Godefridus Dürich, an examined “*oculista*”, petitioned the Vienna faculty for permission to practice there, because his wife’s legal proceedings required his presence there. It was decided that he must prove the necessity of his presence (Senfelder 1912, vol. 6, p. 436).

On Dec. 17, 1721, Joannes Christianus Heber, a Saxon from Dresden, an “*oculista*” and hernia specialist, was admitted by the Vienna faculty, but only during the fair periods (Senfelder 1912, vol. 6, p. 442).

On Apr. 27, 1721: Balthasar Antonius Staz, from Neukirchen am Sand in the Palatinate, an “*oculista*”, lithotomist, and hernia specialist, was admitted by the Vienna faculty, but only during the two major fairs (Senfelder 1912, vol. 6, p. 442).

On Aug. 5, 1712, Joannes Fridericus Kern “*oculista*” and hernia specialist, was presented to the Vienna faculty (Senfelder 1912, vol. 6, p. 449).

On May 26, 1722, Franciscus Julius Pecz, a Bavarian from Ried, “*oculista*”, lithotomist, and hernia specialist, was presented to the Vienna faculty (Senfelder 1912, vol. 6, p. 457).

On Apr. 21, 1725, Franciscus Berello, an Italian official at the tobacco office, was reported to the Vienna faculty for performing surgical operations and ophthalmic treatments (*curas ophthalmicas*), and charging a high price. He did not deny this but relied only on the fact that he was an imperial official. He was prohibited from any medical practice (Senfelder 1912, vol. 6, p. 476).

Croatia (1330-1700).

In 1330, Draga Slava (Draga the Slav), was licensed in Venice to practice medicine, on the basis of “*laudabilis curis et experimentis factis de morbo podagrorum et oculorum*” (see Italy; Stefanutti 1961, pp. 101-2; Park 1998; Gabric 1993).

In 1414, Master Samuel Ebrej (or Evreus), who may have been a Jewish surgeon (*cirosichus*) contracted to perform bilateral couching of cataract (“*catharatis*”) in two patients in Dubrovnik (Bacic 1997; Gabric 1993). Ebrej would receive ten gold pieces in one case, and twenty gold pieces in the other, but only if the board of physicians certified the patients cured (Bacic 1997).

In 1435, “*Magister Johannes oculista*” practiced in Zagreb (Gabric 1993).

In 1435, “*medicus Fridericus*” treated ophthalmic conditions in Zagreb (Gabric 1993).

In 1487, “*magister Joanes*”, surgeon, was sued in Split because he promised to cure a mother of sore eyes and “*catarattas*”, but made her worse than before (Park 2014, p. 280, Rizzi 1957).

By 1641, Stephen von Sütphen of Germany was said to have visited Croatia (see Germany).

Czechia (1330s).

In the 1330s, a French doctor was summoned to Wroclaw to treat the eyes of King John of Bohemia (McVaugh 2001). When he proved incompetent, he was thrown into the Oder River (McVaugh 2001). Then a Muslim practitioner was invited to treat the king’s other eye at Prague, and harmed other patients. The doctor had extracted a promise of safe-conduct in advance (McVaugh 2001). In 1339, the king travelled to Montpellier, where he was given medical treatment by Guy de Chauliac (McVaugh 2001). The king returned blind to Prague, and died at the Battle of Crecy (McVaugh 2001).

In 1570, Zebedaeus Kremniß von der Schweinig, residing in Kunighoffen in “Beham” (Bohemia), was examined in Vienna on “*suffusionibus* [cataracts]” (see Austria).

In 1573, in Tetschen (Děčín), Georg Bartisch of Dresden successfully treated Beit Freise, age 70, who had blurred vision for two years and was stone blind for one half year from cataracts, so that he can now see everything necessary to walk around (Bartisch 1996, prologue). Bartisch was practicing in Iglaw (Jihlava) on Dec. 6, 1576 (Bartisch 1996, prologue). On Mar. 12, 1577, Bartisch was awarded a certificate “in the Latin and Bohemian language” by the mayor of Leuthmeritz (Litoměřice) (Bartisch 1996, prologue). On Easter Tuesday, 1577, Bartisch treated a man’s eyes in Charwitz (Chabařovice). On April 16, 1577, Bartisch received a certificate “in Latin, Bohemish, and German” from the mayor of Aussig on the Elbe (Ústí nad Labem) (Bartisch 1996, prologue). On March. 23, 1582, Bartisch received testimonials in Prague in Bohemia in “Latin, Bohemian, and German” (Bartisch 1996, prologue). On the “Day of Gregory 1582” (Oct. 4, 1582), Bartisch earned a testimonial for eyelid surgery “in Bohemian and German” (Bartisch 1996, prologue; also see Germany, Austria and Poland).

In 1581, Christoph Fuchs was an “Oculist, Stein- und Bruchschneider” in Eger (Siegl 1900, p. 222).

In 1591, Michael Bachman, “*augenarzt*” from Jägerdorff (Krnov) in Schlessing practiced in Vienna (see Austria).

In 1640, in Petscha (Pecka) in Bohemia, the plague ravaged a family, leaving only one small son, who was gravely ill. Assuming he would soon die, they left the father’s grave open for four days, but the son recovered, and grew up to be a good “Oculist und Bruchschneider” and had a happy marriage (Urban 1893, pp. 214-15).

From 1628, Dionysius Fischer, who described himself as “*Medicinae utriusque cultor, approbiert Stein- und Bruchschneider, bewährter Oculist, Leib- und Wundarzt*” practiced as an itinerant in Bohemia, Silesia, Lusatia, and Meissen (see Latvia).

On Feb. 27, 1691, Eisenbarth of Regensburg, the “Okulisten und Arzte”, received a certificate from the Council of Rochlig for 12 cures, including ophthalmic healings and hernia operations (Paudler 1905, p. 436).

In 1710, Zacharias Florian Juth, the “*oculista*”, lithotomist, and hernia healer, residing in Olomouc, was examined in Vienna (see Austria; Senfelder 1912, vol. 6, p. 236)

In 1713, Johann Leonard Adrian Muuss (or Muß), an “*Operator, Oculist, Medicinae Practicus, Chyrurgus*” of Erfurth in Thuringia successfully operated in Auscha (Ústěka) on two patients, at least one of which was for hernia (Paudler 1905, p. 437).

A letter of Sep. 13, 1720 to the Vienna faculty confirmed that in Prague, all quacks (*agyrtas*), ophthalmologists (*ophthalmicos*), hernia specialists, lithotomists, and wandering men, who appeared at public fairs were now subject to a strict examination of their qualifications and were vigilantly monitored. In Prague, these healers were now prohibited from exceeding their duties without the dean's knowledge, and, therefore, for several years, hardly any such healers had appeared. The Prague faculty had admitted a certain man, most skilled in the aforementioned operations, who passed the examination with great elegance (Senfelder 1912, vol. 6, p. 423-424).

Ukraine (1350-).

In the 2nd half of the 14th century, Al-Shazilī (or Shadhilī) of 14th century Egypt described a Turkmen man in (presumably Southern) “Russia” (presumably near the location of the modern city of Odesa) and a Christian Russian in the Byzantine empire who were familiar with the hollow needle for cataract aspiration (Leffler, Samara 2020; Savage-Smith 2000).

Eliasza, a Jewish oculist (*oculorum medicus*) practiced in Krakow from 1514 to 1522 and died in his old age in Lemberg (Lviv) (see Poland chapter).

Switzerland (1384-1700).

In 1384, in Zurich, Meister Hans der Augenarzt, was fined 9 schillings for beating a man in the street whom he accused of being a thief (Baas 1923).

Hans von Dockenburg, who was active as an oculist by 1471, was from the Swiss canton of Schwyz

From 1544 to 1546, the oculist and artist Heinrich Vogtherr the Elder (1490-1556) lived in Zurich (see Germany).

In 1545, Jakob Ruf (1505-1558), who originated in Konstanz and was the city surgeon of Zurich, published *Practica copiosa de arte ophthalmica* (Gerste 2021).

Peter Hafner was a surgeon and oculist in Zurich in the mid-1500s (Nutton 2022, pp. 164-6).

Jacob Baumann (1521-86) of Nuremberg spent some time in Zurich (see Germany, Nutton 2022, pp. 164-6).

In 1557, Felix Platter returned to Basel after training at Montpellier. He had an interest in ophthalmology, and located the lens somewhat anteriorly in 1583. Platter’s eye anatomy was the basis for Kepler’s optical model of the eye in 1604 (Leffler “Middle Ages” 2020, pp. 100-7).

By 1561, Pierre Franco had operated on 200 cataracts with 90% success. He also operated on hernia and bladder stones. He was in Lausanne from 1552 to 1559, and again from 1578 to 1579, and in Berne in 1559, Geneva in 1559, and then Lyon (in 1561) and Orange (Olivier, “origines” p. 481; Olivier “XVIIe”, p. 789).

In 1569, Geneva stipulated that surgeons operating for stone, hernia, cataract, fractures or dislocations must do so in the presence of the patient’s own physician or surgeon (Nutton 2022, pp. 164-6).

In 1579, the council of Lausanne permitted François Blanchard alias Gilliet, originally from Margencel, to practice surgery of hernia, bladder stones, hare lips, “aussi avoir abbatu la caterate des yeulx à ceulx qui avoyent perdue la clarteé” (Olivier 1962 “des origines”, p. 439). Blanchard-Gilliet had already practiced in the area for 16 or 17 years.

In 1614 and 1619, Georg Ysenbein (or M. Jörg Ysenlin) “Oculist, Stein- und Bruchschneider” or “Augenschneiders” from Konstanz was granted a certificate to live in Lucerne (No author, “Wandernde” 1932; “Luzern” 1932, p. 296).

In 1663, in the Pays de Vaud, a young blind man in Bex wanted to marry. The Consistoire stipulated that in order to do so “les parents mettent peine pour lui faire enlever la cataracte des yeux.”(Olivier “origines” 1962, p. 737)

In 1682, Joh. Peter Grutzthaler “oculist und Bruchschneider” received a certificate for his treatments in Lucerne (Luzern 1932, vol. 87-88, p. 257).

In 1692, Jean Langevin, oculiste et lithotomiste from Charnac moved to St. Gallen in the wake of the 1685 revocation of the Edict of Nantes (Robert 2005).

In 1695, the “Oculist” W. Bilderstein from Bregenz was arrested on suspicion of cheating the public (No author, “Wandernde” 1932; [Luzern] 1932, p. 297).

Johannes Conrad Freytag was a surgeon of Zurich who published in 1710 that between 1694 and 1698 he had drawn visual opacities out of the eye when an initial couching had failed, on at least 3 occasions. He included these case reports in a book by Muralt in 1711 (Muralt 1711, pp. 729-733).

In 1753, Maria Gehring practiced in Zurich (see Germany).

In 1761, Caspar Conti practiced in Lucerne (Luzern 1932, p. 300).

In 1763, Joh. Bap. Fess von Hilperstein, an “Operator und Oculist” from Churpflaz was granted permission to erect a stage in Lucerne (Luzern 1932, p. 300).

In 1773, “Fr. Ant. Wittelbacher” from the Duchy of Nuremberg, born in Zauningen and living in Tannhausen, “Operator, Oculist, Leib- und Wundarzt” was permitted to practice in the Spring fair in Lucerne. On Sundays and holidays, he is authorized to appear in theater starting at 5 AM (Lucerne 1932, p. 301)

In 1794, Nicl. Dyonis Fellbier, an “Oculist” from Metz in Lorraine, had a residence permit for a few days (Luzern 1932, p. 302).

In 1795, “Dr. Jos. Forlenzo von Neapel” operated on “grauen Star” in Lucerne (Luzern 1932).

Portugal (1434-1700).

In 1434, Master Nacim, a Jewish master in the art of the eyes “mestre na arte dos olhos” demonstrated his cures (“curas”) in Lisbon, where he resided, (Carvalho 1939) and received a “Letter of Privilege” which entitled him to examine anyone else in the country who desired to practice this art (Collins 2020).

Between 1434 and 1464, Ruy Goncalves, a Lisbon resident, another “mestre dos olhos”, was examined and granted permission to practice his art (Carvalho 1939).

In 1464, Mestre Daniel Colobro, a Jewish resident of Lisbon, declared that he was a servant and helper of Master Nacim (Carvalho 1939).

In 1503, Mestre Sancho, a Biscayan, was examined by the kingdom's chief surgeon and authorized to remove cataracts (*cataratas*) and pterygia (*unhas*) (Carvalho 1939).

In 1516, Mestre Simão, a resident of Entradas (in Campo de Ourique, in Alemtejo) was examined by the chief surgeon and authorized to treat eye diseases (Carvalho 1939).

In 1518, a foreigner, Mestre Joao Biscainho, a resident of Penela, was authorized to treat cataracts, pterygia, and all other eye diseases. For the first time, the beneficiary of this privilege was required to swear in the chancellery to the holy gospels, a provision which might have served as a barrier to Jewish doctors (Carvalho 1939).

In 1584, Luis Teles, who called himself “cirurgiao e medico de olhos”, the son of “mestre Luis”, first practiced in Lisbon, and was appointed at the Hospital d’El-Rei, where he resided, with an annual salary of 10,000 reis in 1587. He performed cataract surgeries at the hospital. In 1593, he was on the salaried staff at the Hospital e Misericordia, curing patients with cataracts, again residing at the hospital. When Luis was absent, another “fisico das cataratas” practiced in the area. In 1598, Luis was called to the service of viceroy Cristóvão de Moura (1538-1613), who became the first Marquis of Castelo Rodrigo. In 1601, Luis did not agree with the salary for treating cataracts and other eye diseases offered by Prince Alberto, and therefore Luis left his post, which remained vacant for 10 years (Carvalho 1939).

In 1587, Lisbon surgeon Gaspar Monteiro Rebêlo, born in Pêso, near Lamego, operated on cataracts (Carvalho 1944-5).

In 1611, Jacomo de Luca, born in Messina, underwent an examination by two surgeons, and was then licensed in Coimbra to treat cataracts (“cataratas”) and to perform operations for all eye diseases (Carvalho 1944-5).

In 1742, licensed surgeon Manuel Du Pré, born in S. João de Laurinana, surgeon, licensed, called himself “oculista do Infante D. António”, announced that he was practicing the radical cure of the urethra and also treated all eye diseases. He stayed in Lisbon for about six years (Carvalho 1944-5).

In 1751, David Philip Schwartz (d. 1785) of Germany, an expert in treating eye diseases, arrived in Lisbon. He was the son of Frederico Otto Schwartz. David was appointed the chair of “Optica” at the Hospital Real de Toclos-os-Santos as an expert in surgery (Carvalho 1944-5). He was commended for good service in 1758, was sent by the king to Tavira to treat an official's eye disease in 1763 (Carvalho 1944-5).

In 1755, Hilmer announced his intention to practice in Lisbon. He was leaving Seville for Portugal, and did practice in Porto (Carvalho 1944-5).

In the 1750s, Manuel Ferreira Cupido, surgeon and “Oculista” successfully operated on cataracts at the Hospital Real da Santa Misericordia in Elvas (Carvalho 1944-5).

Between 1769 and 1788, Pedro Gralhat de Hayes, “Oculista” performed cataract extractions from time to time in Lisbon and Porto. Patients could find him at the home at which he lodged. By 1788, he was known at the courts of Viana and Madrid (Carvalho 1944-5).

In 1773, the sculptor Alessandro Giusti (1715-1799) was sent by D. José to Paris to be operated for cataracts, but the oculists of that city refused to operate, and sent him back to Portugal blind (Carvalho 1944-5).

Between 1792 and 1798, António Soldati of Italy performed cataract operations in Lisbon (Carvalho 1944-5).

Slovakia (1469-).

In 1469, a letter to the people of Bártfai (Bardejov) indicated that the oculist who was sent completely blinded the parish priest of Varanno (Vranov nad Topľou) with his bold cutting (*per suas scissuras*) (Gyula 1929, p. 84).

In 1473, master Hans Rose from Zips (Spiš) performed a cataract surgery in Dernbach (Wichner 1885, p. 9; see Germany).

In 1524, a Jewish oculist named Mihály practiced in Bratislava (Gyula 1929, p. 30).

On Aug. 17, 1572, a letter-writer to the town judge in Kremnitz stated that he had heard that an eye doctor was practicing there, and requested that the eye doctor travel to the letter-writer’s city, because the letter-writer’s wife, and others, had eye ailments (Kossa 1908, p. 66). This eye doctor was probably Christoff Schwabe (Kossa 1908, p. 66). In 1574, Christoff Schwabe from “Franckstein, in Schlesien” (a Silesian town in the district of Boroszló), a “Stain vnd bruch Schneider, Oculist, Wund vnd Leibartz” received a certificate from the Körmöcbány (Kremnica) council for hernia operations and successful eye surgeries (Gyula 1929, pp. 84-85). Schwabe cured a 60-year-old woman of a cataract (“Stahr”) on July 7, 1574, so that she could now distinguish people and walk without being guided by her hands, and take care of her household (Kossa 1908, p. 67). By 1586, Schwabe had settled in Gdansk, where he became a well-known teacher and practitioner of ophthalmology (see chapter on Poland).

Jacob Winckler, an “*Oculist, Stein: un[d] Bruchschneid*” who treated cataracts (“*Staar*”), and was active in Vienna from 1614 to 1629, printed in a German handbill that he was licensed in Turkey, Poland, and both Upper and Lower Hungary (see Austria and Germany).

In 1640, “Herr Hannsz Schneider”, who was “Ein Occulist, Leub vnd Wund Arzt” from “Cameny” (Kamen, Prussia), was awarded a certificate for successfully performing a surgery on the wife of an official from Kremnica (Gyula 1929, p. 85-86). She had suffered from cataracts (“*Starr*”) for 5 years (Kossa 1908, p. 68).

Hungary (1471-1700).

In the 15th century, Marcin (Martinus), a Hungarian, ophthalmologist from Kassa (Košice) – was active near Krakow in Kaszow (Bednarski 1928, p. 13).

In about 1471, surgeon, Hans von Dockenburg (Her Johan von Tockenburk), originally from the Swiss canton of Schwyz, successfully removed an arrow from the arm of King Matthias of Hungary (Gyula 1929, p. 300). It was said that the king had offered to handsomely reward anyone who could successfully remove the arrow, but had threatened death of the surgeon if the effort were unsuccessful. Dockenburg took up the challenge successfully, and was granted a large fortune, and was knighted. As this healing by Toggenburg is not known from Hungarian sources, it is possible that Toggenburg invented the king's conditions in his subsequent writings (Gyula 1929, p. 297). In his early days, Toggenburg practiced in Alsace (Gyula 1929, p. 300). Toggenburg served King Matthias from about 1471 to 1744 (Gyula 1929, p. 300). Toggenburg advertised at the October fair in Leipzig in 1477 as "De Cyrurgico et Oculista... Her Johan von Tockenburk" (Gyula 1929, p. 299-300).

In the 1500s, Jewish doctors travelled to Hungary from Turkey and Poland (Gyula 1929, p. 30). Whereas lithotomists and surgeons for cleft lips and neoplasm came to northern and western Hungary from Greece or Macedonia, the oculists and hernia surgeons came from Germany (Kossa 1908, p. 64).

In 1558, a surgeon visited Sopron and was said to have ruined the eyes of many and pocketed the sick people's money (Gyula 1929, p. 84).

In 1563, the work of Danish oculist János Dauchberuk was certified by the Seirnecbánya (Szentendre?) council (Gyula 1929, p. 86).

In 1568, the guild of barber surgeons of Cluj-Napoca mentioned that itinerant ophthalmologists were not prohibited from operating (Szala 2008).

In the early 1600s, surgeon and oculist Illés Hoffmann practiced and advertised in Hungary (Gyula 1929, p. 100-101).

Jacob Winckler, an "*Oculist, Stein: un[d] Bruchschneid*" who treated cataracts ("*Staar*"), and was active in Vienna from 1614 to 1629, printed in a German handbill that he was licensed in Turkey, Poland, and both Upper and Lower Hungary (see Austria and Germany).

By 1641, Stephen von von Sütphen the elder was said to have travelled to Hungary (see Germany).

In 1682, András Loew (ca. 1660 – ca. 1710) of Sopron (Oedenburg) returned to his hometown after earning his medical degree in Jena. András Loew was said to be a doctor and ophthalmologist (Szala 2008).

In 1701 and 1702, Johaim Heinrich Hoffmann an "Okulist" in Weitra had taken Christoph Tretiler, the son of barber Mathias Treitler from Zwettl, as an apprentice. However, Christoph failed three times, so Hoffmann sued the senior Treitler for damages (Weinrich 1990, p. 476).

In 1722, Johann Franz Habermann, an "oculista et operator" of Austria announced that he would again visit Hungary (Fellner 1973, p. 5; see Austria section).

In 1738, Károly Frigyes Loew (1699-1741) returned to his hometown of Sopron. Like his father, András, he was said to be a physician and ophthalmologist (Szala 2008). Károly earned his medical degree in Jena in 1721, and practiced mostly in Vienna until 1738.

In 1753, Tobias Kern, an “oculist und operateur” announced in Ofen (Buda) that he was a Silesian who had been summoned by Hungarian lords from Vienna (Kossa 1908, p. 70). His notice did not explicitly state that he performed cataract couching, and he may have used only medicines. The governor’s council permitted him to practice as long as he did not treat internal ailments (Kossa 1908, p. 71).

In 1755, the health decree of Hungary regulated the remuneration of ophthalmology at fairs (Szala 2008).

In 1767, Kaspar Granner of Germany, an oculist and hernia surgeon, practiced in Soroksár, near Pest (Kossa 1908, p. 71). He had been examined in Najsburgh, Germany, by Seb. Jos. Scholer, “*chirurgum oculistam et rupturarum*”, and by Jo. Melch. Camer, also described as an “*oculistam chirurgum*” (Kossa 1908, p. 71).

In 1778, the Austrian decree forbidding the practice of wandering healers (which would include such oculists) was extended to Hungary (Kossa 1908, p. 72).

In 1791, a nationwide law stipulated that each county employ one ophthalmologist, but the law could not be fulfilled due to lack of qualified doctors (Szala 2008).

Estonia (1513-).

In 1513, Johann was an “Augenarzt” who practiced in Reval (Brennsohn “Estlands” 1922, p. 228).

In 1569, Master Hans von Staden, an “Augenarste und Leibarste” practiced in Reval, and he lived in the city for a long time (Brennsohn “Estlands” 1922, p. 199).

On April 29, 1589, the city council of Dorpat awarded a certificate to Sigismundus Awerbach, a “Stein und Bruchsneider Ophtalmist, leib und Wundt Arzdt” for the cures of 3 blind patients: an elderly woman of 60 years, who had been blind for about 36 years, a woman named Katharyna, also completely blind for years, and Georgen Smidt who had been blind for about seven years. (Mattiesen 1902, p. 186-93; Brennsohn “Livlands” 1905, p. 44, 87).

In 1616, Georg Laurke (also Lourke, also Dr. Georgius Friedericus Laureckius), an “Oculist, Stein- u. Bruchschneider” from Lübeck practiced in Reval, and treated many infirm people, and performed operations there. He was again in Reval in 1623 and 1624, when received a certificate of the ailments treated and operations performed there (Brennsohn “Estlands” 1922, p. 255-6).

On August 9, 1624, the “Oculisten und Steinschneider” Marten Preiske received a certificate from the city of Dorpat for treating Tuddelin Hans from Palla who had been unable to see out of his right eye for eight years, and for treating a child’s hearing loss. The patients testified before the city council about their recovery (Mattiesen 1902, p. 192; Brennsohn “Livlands” 1905, p. 322).

In 1627, Georg Debig, a traveling surgeon, treated patients in Reval. He returned there in 1627, and performed operations for hernia, and eye operations, including one on the pastor of Padenorm (Brennsohn "Estlands" 1922, p. 162).

Daniel Lader, an itinerant oculist of Gdansk, practiced in Reval in 1638-39, 1650, 1663-64, 1683, and 1685. In 1638, town physician Gebhard Himsel complained that Lader had insulted him in the public market and interfered with his treatments. In 1663, Lader stated there were no other oculists in Reval, and in 1664 he invited the mayor and city council to attend a cataract surgery he planned to perform there on an old blind person. In 1685, the Reval city physician argued that Lader had committed malpractice (Brennsohn "Estlands" 1922, p. 254, 395; see Poland).

In 1641, Johann Grahe, an "Okulist, Wanderarzt" in Pernau sued Josepha, a local daughter, who had entered his service during his stay, and left without reason. She was ordered to return and pay a fine of one mark (Brennsohn "Livlands" 1905, p. 178).

In 1646 and 1647, Johann Otto, an "Oculist, Schnitt- u. Wundarzt" from "Eisfeld im Frankenland" received certificates from the Reval city council for successfully performed operations (Brennsohn "Estlands" 1922, p. 291).

On March 17, 1648, the city council of Dorpat issued a certificate attesting that Johannes Schreiber, a "Medicus, Oculist und Lithotomus", born in Löwenberg, and originally from Freyberg in Meißen, successfully operated on a three-year-old girl for cleft lip (Mattiesen 1902, p. 192, 305; Brennsohn "Livlands" 1905, p. 360). Schreiber had also practiced in Braunschweig, Germany (Katritzky 2007, p. 180).

On July 16, 1678, Christian Weydisch (Weyrich), an "Okulist, Stein- u. Bruchschneider" received a testimonial from the Reval city council, as he had practiced there for several weeks (Brennsohn "Estlands" 1922, p. 363).

In Dec. 1681 and Jan. 1682, Andreas Ertz, an "Oculist, Stein- und Bruchschneider" asked the Reval city council for permission to sell medicines at the market and practice his medical art (Brennsohn "Estlands" 1922, p. 173).

In 1685, "Daniel Croon of Danzig, an oculist" was granted to permission to erect a booth in the market square in Reval (Tallinn) for 3 weeks "providing that he does not miss the sermons" (Kitching 1995). It was deemed worthy of mention that his practice included no performance element (Katritzky 2007, p. 88).

On Mar. 26, 1687, Dionisius Brunnet, a traveling doctor, asked the Reval city council for permission to practice, as his treatments for "Augen [eyes]", dysentery, stones, fractures, growths, cutting cleft lips, as well as cancers and fistulas he has provided for hundreds of patients successfully (Brennsohn "Estlands" 1922, p. 147).

On Feb. 4, 1688, Christian Adolphi asked the city council of Pernau to employ him as a doctor. He had already performed difficult treatments in the city, and had been in the kingdom for over 9 years. He has worked in Sweden, and treated eye diseases and undertaken internal treatments. He was publicly examined and approved in Stockholm and in Riga by the city physician (Brennsohn "Estlands" 1922, p. 414-415)

On May 5, 1698, Georg Meyer, Georg, “Augenarzt u . Chymicus” in Reval married Margarete Kiselstein (Brennsohn “Estlands” 1922, p. 273).

In 1738, Friedrich Gottlieb Hoffmann, surgeon, dentist and barber, informed the Reval city council that he had been in Reval a few years previously as an “Okulist u. Zahnarzt“, before practicing in St. Petersburg. Hoffmann asked to remain in Reval in place of the vacant barber. Hoffmann possessed March and June 1738 certificates from Dr. Gerding and Dr. Nicolaus Grünbergh, both of St. Petersburg. Hoffmann came from abroad, and in 1730 had received permission to practice dentistry and external treatments in Moscow. In 1738, he was granted the same for Estonia and Livonia, but without the right to practice internal treatments. The surgeon’s office in Reval opposed his practice (Brennsohn “Estlands” 1922, p. 216).

Königsberg (now Kaliningrad) (1573-).

Before 1573, when Valentine Russwurin of Schmalkalden, Germany practiced in London, he advertised that he had practiced at “Koningsburg in Prussia”, at “Hamburgh”, and at “Groninghen in west friseland” (see British Isles chapter).

In September 1600, Michał Keller, an oculist and lithotomist, migrated from Gdańsk to Königsberg to practice. The Königsberg City Council sought an opinion from the Gdańsk authorities about Keller’s qualifications (see Poland; Sokol 1958, p. 228).

In 1635, the oculist and surgeon Daniel Schwabe performed surgery to remove a knife from the abdomen in Königsberg (see Poland).

In 1652, Ernst Kleimann, a student of the medical faculty in Königsberg, and a “Chirurgus, Okulist, Stein- u. Bruchschneider”, practiced in Kurland and Semgallen (Brennsohn “Kurlands” 1929, p. 244; see Latvia).

Before 1677, Johann Dietrich Schertling (Joh. Tirich Schartling), an oculist who performed cataract couching, had served as the Hofokulist at Königsberg (see Russia chapter).

In 1687, Marquardt, an “Oculist, Stein- und Bruchschneider” kept a stage with 10 actors in Königsberg (Hagen 1850, p. 264-5; Moser 1902, p. 13). This might be the Godefridus Marquardus from Lignitz, Silesia who petitioned the Vienna faculty for examination in “*arte ophthalmica et lithotomica*” in December 1685 (Senfelder 1912, vol. 6, p. 51; see Austria).

In 1696, Joseph Viviani was the court oculist (Hofokulist), lithotomist, and fracture doctor, in Königsberg. He had trained in Padua (Henning 1989).

In 1723, Johann Andreas Eisenbarth (1663–1727) practiced in Königsberg (Kaliningrad) (Zajaczkowski “Danzig” 2014).

In 1765, the oculist Joseph Hilmer was falsely reported to have died in Königsberg (see British Isles chapter).

In October 1780, Jean François Pellier (b. 1748) of France practiced in Königsberg (see British Isles chapter).

Romania (1615-).

Guttmann Eberkard practiced as an oculist in Brasov in 1615 (Gyula 1929, p. 86).

Countess Kata Bethlen (1700-1759) studied ophthalmology, and according to some historians, was taught to remove cataracts by a good oculist (“egy jó okulista”, “un bun oculist”). The oculist was named Simoni Márton, according to Péter Bod (Gyula 1929, pp. 36-37, 84). Other historians believe Bethlen’s ophthalmic practice was limited to prescribing ointments (Kossa 1908, p. 65-6). Bethlen was born in Bahnea died in Făgăraș.

Slovenia (1616).

In 1616, Angelo Mercato of Italy, the “*lithotomus, herniarum sector et oculista*” for Styria, Carinthia, and Carniola, requested permission to practice in Vienna (Senfelder 1910, vol. V., p. 118-9; see Austria).

Latvia (1645).

On May 31, 1645, Daniel Lader received a certificate indicating that he had practiced in Riga for several weeks (Brennsohn “Estlands” 1922, p. 254). Lader practiced again in Riga in 1660 (Brennsohn “Estlands” 1922, p. 254, see Poland).

On July 28, 1648, Antonius Remigius, an “Okulist, Steinund Bruchschneider” born in France, received a certificate from the Riga city council (Brennsohn “Kurlands” 1929, p. 451).

In 1649, Dionysius Fischer, who described himself as “*Medicinae utriusque cultor, approbiert Stein- und Bruchschneider, bewährter Oculist, Leib- und Wundarzt*” came to Riga as a doctor in the Swedish garrison. Fischer was born in Schneeberg in Meissen, the son of a doctor. He studied in Leipzig, Wittenberg, and Prague, and then perfected his skills under his father. From 1628, he practiced as an itinerant in Bohemia, Silesia, Lusatia, and Meissen. He had three 2-horse carriages for his assistants, instruments and medicines. From 1632 to 1635, he practiced in Swedish possessions in Germany. In 1635, in Sweden, he was the physician to Karl Karlson Gyllenhielm, until 1639. In 1648, he was the city physician in Norrköpping. In 1649, he was appointed by Queen Christine as the medical surgeon at the hospital of the Swedish garrison in Riga. He found the hospital in great disarray, and complained to the governor that he had been defamed. In 1657, he was finally awarded the same salary as his predecessor. On his portrait, he is described as “*Litho - herniotomus, Ophtalmista, Med. Chirurgus hospitalis Ordinarius*” (Brennsohn “Livlands” 1905, p. 20, 159-60).

On Sep. 10, 1652, Ernst Kleimann, a student of the medical faculty in Königsberg, and a “Chirurgus, Okulist, Stein- u. Bruchschneider”, received a patent from Duke Jakob to practice in Kurland and Semgallen (Brennsohn “Kurlands” 1929, p. 244).

In 1676, Georg Weygand (also Wigand, Jörgins Wiegantius), an “Ogalist [oculist], Stein- u. Bruchschneider, auch Leib u. Wundenarzt” married in Bauske, and moved in 1681 to Goldingen, where he also set up a pharmacy around 1688. In 1682, he was called “Ophthalmico-Litomus et Med. Practicus”. In 1695, a Riga official considered travelling to

see Weygand for treatment. In 1706, he performed an autopsy on a corpse in a poisoning case. Weygand was buried in 1713 (Brennsohn "Kurlands" 1929, p. 418-9).

In 1678, Martin Schröders from Gdansk, a "Medizinae Practicus u. Okulist" had a child baptized in Mitau. Schröders' last family baptism was in 1699, and his widow was still mentioned in 1708 (Brennsohn "Kurlands" 1929, p. 363).

In 1682, Johann Gienckel (Gunckel, Kenckel), a "Wundarzt, Bruchschneider und Auckelist [oculist]" married the daughter of the mayor of Bauske. Gienckel was also a theological student who was the headmaster of the Bauske town school in 1683 (Brennsohn "Kurlands" 1929, p. 169).

By 1688, Christian Adolphi, who performed eye treatments, had been publicly examined and approved in Stockholm and in Riga (Brennsohn "Estlands" 1922, p. 414-415; see Estonia)

On Sep. 1, 1692, Augustinus Ambrosius Schiller, an "Okulist u. Mediziner" born in Breslau, received a passport to settle in Riga, having already practiced there (Brennsohn "Estlands" 1922, p. 321).

In 1695, an itinerant oculist in Frankfurt boasted that he had obtained from an oculist friend in Riga a cataract needle which could extract cataracts (see Germany).

In 1697, Joh. Math. Zimmerman, an "Okulist" in Bauske, had a complaint filed against him by the surgeon Martin Krause alleging that Zimmerman was practicing outside his area of expertise. The Duke ordered the council to decree that no one would interfere with another's profession, and that Zimmerman would not engage in operations appropriate for surgeons. By 1708, Zimmerman worked in Riga, when he received a certificate stating that he had been in nearby Odern for a long time, where he successfully healed a widow's daughter. The widow wrote a note excusing the doctor for his late return to Riga, because of the poor condition of the roads and the exhaustion of the horses, which made it impossible for him to send him earlier (Brennsohn "Kurlands" 1929, p. 256-257, 436).

On July 28, 1721, Franz Friedrich Sonnenwald, a famous "Okulisten u. Medicinae Practicus" received a certificate from the councilors of Mita after providing multiple treatments there (Brennsohn "Kurlands" 1929, p. 374).

In 1738, Johann Friedrich Donell (Donel), the Hof-Okulist to Prince Radziwil, was a godfather in Bausk. Donell was in Mitau in 1751, and was buried in Bausk in 1755 (Brennsohn "Kurlands" 1929, p. 138).

In 1740, medical regulations in Riga permitted oculists and hernia surgeons to stand outside the public fair after they had passed an examination with town physicians (Brennsohn "Livlands" 1905, p. 25).

On Aug. 15, 1767, Johann Matthias Sandtner "Oculist u. Operateur" asked to practice in Riga. According to his certificates, he practiced in 1763 in Frauenburg in Prussia, in Sep. 1763 in Gdansk, in July 1764 in Flatau (Złotów) in Greater Poland, and July 1767 in Bauske (Brennsohn "Kurlands" 1929, p. 452).

On Dec. 15, 1779, Pellier, the Augenarzt, was probably the recipient of an allocation for an eye operation on a lady at court, and Pellier was definitely the recipient of the allocation for treating the eyes of 21 subjects by Feb. 29, 1780 (Brennsohn "Kurlands" 1929, p. 317).

In March 1790, Kupzow, an "Operateur" was awarded by the pension office 48 thalers for performing an eye treatment on two subjects of Sallgallen (Brennsohn "Kurlands" 1929, p. 267).

In 1802, Reiner, the "Hof-Okulist" was in Riga and Livonia in 1802. He was traveling the province providing free treatment for eye diseases, especially among farmers. In 1810, Reiner practiced in Dorpat, and in 1813, 1817, and 1818, once again in Riga (Brennsohn "Livlands" 1905, p. 330).

Lithuania (1679).

Before 1679, Yurii Gensen (or Martynov), who was Dutch, was the son of a surgeon, and treated eyes, bones, and wounds, studied in Wilno with one Christopher Satrib for 9 years (Unkovskaya 1999, p. 91).

Since 1781, ophthalmology teaching has been recorded in Vilnius, when the Faculty of Medicine was established at the Vilnius Senior School. According to Lithuanian historians, Jokūbas Briotė, who taught until 1808, was the first ophthalmic educator in Lithuania (Krivaitiene 2011, p. 10).

References.

- [Albucasis] Abū al-Qāsim Khalaf ibn 'Abbas al-Zahrāwī, Spink (trans.). Albucasis on surgery and instruments. Berkeley, Univ. of Calif. 1973. [Al-Ghafiqi] Mohammad Ibn Qassoum Ibn Aslam Al-Ghāfiqi, Meyerhof M. Le Guide d'Oculistique. Al-Morchid Fi'l-Kohl. Barcelona: Masnou, 1933: 99-156. Afacan, Şeyma. "From traditionalism to modernism: mental health in the Ottoman Empire." PhD diss., Sabanci University, 2010. Alonso MÁ. El oculista C. Cassius Philota y los médicos de corte en la Roma altoimperial. Dialogues d'histoire ancienne. 2021;47(2):251-76. Baas K. Augenärztliches aus dem späteren deutschen Mittelalter. Albrecht von Graefes Archiv für Ophthalmologie. 1923 Mar;111(1):84-90. Bacic J, Polanda-Bacic G. Master Samuel Ebrej ophthalmic surgeon of Dubrovnik and contracts relating to medical services dating from 1414. International Ophthalmology 1997; 21:149-52. Baker P. Roman medical instruments: archaeological interpretations of their possible 'non-functional' uses. Social History of Medicine. 2004;17(1):3-21. Balaguer V. Història de Catalunya y de la Corona de Aragon, Volume 3. Barcelona. Librería de Salvador Manero, 1862. p. 608. Bartisch G, Blanchard DL (trans.). Ophthalmodouleia: That is the Service of the Eyes. 1583. Ostend: J.-P. Wayenborgh 1996. Bliquez LJ. Two lists of Greek surgical instruments and the state of surgery in Byzantine times. Dumbarton Oaks Papers. 1984;38: 187-204. Bludenz. Vorarlberger Landesarchiv. Rep. 14-295 Stadtarchiv Bludenz Akten. Brennsohn I. Die Aerzte Estlands. Vom Beginn der historischen Zeit bis zur Gegenwart. Ein biographisches Lexikon nebst einer historischen Einleitung über das Medizinalwesen Estlands. Von Dr. med. Isidorus Brennsohn in Riga. Riga: Bruhns, 1922: 254. Brennsohn I. Die Aerzte Livlands Von Den Ältesten Zeiten Bis Zur Gegenwart: Ein Biographisches Lexikon Nebst Einer Historischen Einleitung Über Das Medizinalwesen Livlands. Riga. Bruhns. 1905. Brennsohn I. Die Ärzte Kurlands vom Beginn der herzoglichen Zeit bis zur Gegenwart: ein biographisches Lexikon ; nebst einer historischen Einleitung über das Medizinalwesen Kurlands. Riga: Ernest, 1929. Cacciapuoti G. Il profilo sociale dei medici ocularii della città di Roma (I sec. a.C. – III sec. d.C.). "Ager Veleias", 12.05 (2017) [www.veleia.it] Calvanico R. Fonti per la storia della medicina e della chirurgia per il Regno di Napoli nel periodo angioino (a. 1273-1410). Napoli, L'Arte tipografica, 1962. Cardoner i Planas A. Historia de la medicina a la Corona d'Arago (1162-1479). Barcelona : Scintia, 1973: 174-6. Carvalho AS. História da Oftalmologia Portuguesa. Na segunda metade do século XVII. Boletim da Sociedade Portuguesa de Oftalmologia. Lisboa 1944-1945, Tomo IV, 163-186. Carvalho AS. História da Oftalmologia Portuguesa: até ao -m do século XVI. Boletim da Sociedade de Oftalmologia. Lisboa 1939, Tomo I, 16-34. Carvalho AS. História da Oftalmologia Portuguesa: século XVII. Boletim da Sociedade de Oftalmologia, Lisboa, 1940, Tomo II, 63-86. Casal G. Memorias de historia natural y médica de Asturias. Escuela Tip. del Hospicio; 1900. Celebi E, Dankoff R. Evliya Çelebi in Bitlis: the relevant section of the Seyahatname. Brill; 1990. Celebi E, Hammer-Purgstall J (trans.). Narrative of travels in Europe, Asia and Africa, in the seventeenth century. London. Oriental translation fund. 1846. Chabé A-A. Histoire de l'Ophthalmologie à Bordeaux. Thèse pour le doctorate en médecine...8 janvier 1908. Bordeaux: Imprimerie Nouvelle. 1908. Cobo J, Martínez Vidal À. La práctica médico-quirúrgica en la primera generación del movimiento "novator" a través de las obras de Juan Bautista Juanini (Milán, 1632-

Madrid, 1691). Universitat Autònoma de Barcelona. 2004. **Collins K.** Jewish physicians and the Portuguese Medical Diaspora. *Vesalius* 2020; XXVI(1): 91-106. **Comenge y Ferrer L.** La medicina en Cataluña: bosquejo histórico. Barcelona: Henrich. 1908: 164. **Cotter W.** Miracles in Greco-Roman antiquity: A sourcebook. London: Psychology Press; 1999. **Crystal ML.** Medicine in Vienna in the sixteenth and seventeenth centuries. Ph.D. thesis. University of Virginia, 1994. **Davidson F.** Lithotomists, cataract-curers, and hernia-carvers: The Surgical School of Preci. *Journal of Medical Biography*. 2016;24(4):440-52. **de Demerson P.** Una mujer cirujano en tiempos de Carlos IV: Victoria de Félix. *Anales del Instituto de Estudios Madrilenos*. Instituto de Estudios Madrilenos (Consejo Superior de Investigaciones Científicas). 1973;9:415-26. **del Cid RM.** Una cirujano oculista en el siglo XVIII: Victoria de Félix. *Archivos de la Sociedad Española de Oftalmología*. 2009;84(12):641-2. **Demaitre L.** Medieval Medicine: the Art of Healing from Head to Toe. Santa Barbara, CA. Praeger. 2013. **Easton J.** The Elusive libertina nobilitas: A Case-Study of Roman Municipal Freedmen in the Augustales. *Phoenix*. 2019;73(3):333-57. **Edge C, Gibbins D.** Underwater discovery of Roman surgical equipment. *BMJ: British Medical Journal*. 1988; 297(6664):1645-6. **Eldredge LM.** The English Vernacular Afterlife of Benvenutus Grassus, *Ophthalmologist*. Early Science and Medicine. Vol. 4, No. 2 (1999), pp. 149-163. **Eldredge LM.** The English Vernacular Afterlife of Benvenutus Grassus, *Ophthalmologist*. Early Science and Medicine. Early Science and Medicine. Vol. 4, No. 2 (1999), pp. 149-163. **Espina-Jerez B, Siles-González J, Solano-Ruiz MC, Gómez-Cantarino S.** Women health providers: Materials on cures, remedies and sexuality in inquisitorial processes (15th–18th century). *Frontiers in Psychology*. 2023 Jul 10;14:1178499. **Fabbri GB.** Della Litotomia antica e dei Litotomi ed Oculisti Nocini o Preciani. Roma. Dalla Tipografia Romana. 1870. **Faqiri Z.** 2020. The Medical Practice and Licencing of Women in the Late Medieval Kingdom of Naples (Master's thesis, University of Waterloo). **Fellner R, Höflechner W.** Die Augenheilkunde an der Universität Graz. Graz Akademische Druck- u. Verlagsanstalt 1973. **Fernández MA, Aragón MA.** Traducciones de obras francesas en la Gaceta de Madrid en la década revolucionaria (1790-1799). Universidad de Oviedo; 1992: 24. **Feugère M, Künzl E, Weisser U.** Les aiguilles à cataract de Montbellet (Saône-et-Loire). Contribution à l'étude de l'ophtalmologie antique et Islamique. Die starnadeln von Montbellet (Saône-et-Loire). Ein beitrage zur antiken und Islamischen augenheilkunde. *Jarbuch des Römisch-Germanischen Zentralmuseums Mainz*. 1985 (1988); 32: 436-508. **Fleur E.** Essai sur l'Histoire de la Pharmacie à Metz. *Revue d'Histoire de la Pharmacie*. 1929;17(61):169-77. **Friedländer L, Magnus LA (trans.).** Roman Life and Manners under the Early Empire: Authorized Translation of the Seventh Enlarged and Revised Edition of the Sittengeschichte Roms. London: Routledge, 1908. **Fronimopoulos J, Lascaratos J.** The terms glaucoma and cataract in the ancient Greek and Byzantine writers. *Documenta ophthalmologica* 1991;77(4):369-75. **Gabrić N, Henc-Petrinović L.** A brief review of the development of ophthalmology in Croatia. *Acta Medica Croatica: Casopis Hrvatske Akademije Medicinskih Znanosti*. 1993 Jan 1;47(1):1-4. **Gambaccini P.** Mountebanks and medicasters : a history of Italian charlatans from the Middle Ages to the present. Jefferson, N.C.: McFarland & Co., 2004. **Gentilcore D.** Medical Charlatanism in Early Modern Italy. New York: Oxford University Press, 2006. **Georg & Agathe Foundation.** georgandagathe.org/trapp-hoffman-thilenius-metzler.html **Gerste RD.** Contributions to Progress in Ophthalmology from Switzerland: From the 16th to the 21st Century. *Ophthalmologica*. 2021;244(1):1-7. **Gibbins DJ.** The Roman wreck of c. AD 200 at Plemmirio, near Siracusa (Sicily): second interim report: The domestic assemblage 1: medical equipment and pottery lamps. *International Journal of Nautical Archaeology*. 1989 Feb;18(1):1-25. **González Arce JD.** Los proyectos de ordenanzas generados de médicos, cirujanos y boticarios de Castilla (ca. 1491-1513). *Dynamis*. 2011;31(1):207-26. **González RJ.** Privilegios especiales concedidos por el protomédico del principado de Cataluña y condados del Rosellón y de la Cerdeña, durante la primera mitad del siglo XVII. *Medicina e historia*. 1973 May(24):7-26. **Goodell W.** Turkey from a Medical Point of View. *The Ohio Medical and Surgical Journal* (1848-1878). 1861 May 1;13(5):389. **Gosky LD.** De catarrhacta defendente Leopoldo Dieterico Gosky. – Francofurti. Zeitlerus 1695. **Gouvenain, Vallee P.** Inventaire-sommaire des archives communales antérieures à 1790, ville de Dijon / rédigé par M. De Gouvenain. Tome Troisième. Dijon: Carre. 1892: 48-49. **Gummerus HG.** Der Arztstand im römischen Reiche nach den Inschriften. Helsingfors: Akademische Buchhandlung, 1932. **Gyula Magyary-Kossa.** Magyar orvosi emlékek. Értekezések a magyar orvostörténelem köréből 2. A Magyar Orvosi Könyvtár Társulat Könyvtára 122. Budapest: Kotet, 1929. Available from: library.hungaricana.hu/hu/view/KlasszikusOrvosiKonyvek_153 **Hackenberg M.** Books in artisan homes of sixteenth-century Germany. *Journal of library history*. 1986 Jan 1:72-91. **Hagen A.** Neue preußische Provinzial-Blätter. Königsberg. 1850. July-Dec. p. 264-5. **Hamilton M.** Incubation: Or, the Cure of Disease in Pagan Temples and Christian Churches. London: Henderson; 1906: 13-18. **Hassel, FJ, Künzl E.** Ein römisches Arztgrab des 3. Jahrhunderts n. Chr. Aus Kleinasien, *Medizinhistorisches Journal* 1980; 15: 403-421. **Henning A.** Zur Augenheilkunde im 18. Jahrhundert: Das «Okulisten-seculum» in Berlin. *Fortschritte der Ophthalmologie*. 1989;86(3):256-8. **Heymans, H. and P. Janssens,** 1975–76. De 'Trousse d'Oculiste' van Maaseik. *Hades* 14–15:10–12. **Heymans, H.,** 1979. Eine Hülse mit Arzteinstrumenten aus Maaseik (Belgien). *Archäologisches Korrespondenzblatt* 9:97–100. **Hibbs VA.** Roman surgical and medical instruments from La Cañada Honda (Gandul). *Archivo Español de Arqueología*. 2018; 64(163-164): 111-34. **Hirschberg J, Blodi FC.** The History of Ophthalmology. Vol. 2. The Middle Ages: The Sixteenth and Seventeenth Centuries. Bonn: Wayenborgh; 1985. **Jackson R.** A set of Roman medical instruments from Italy. *Britannia*. 1986; 17:119-67. **Katritzky MA.** Women, Medicine and Theatre, 1500–1750. Literary Mountebanks and Performing Quacks. 2007. **Kayaalp P.** An analysis of the hospitals of Sultan Süleyman and Hürrem: Two different approaches to healthcare in sixteenth-century Ottoman Empire. *Journal of Medical Biography*. 2019 May;27(2):102-8. **Kitching LP.** New land for research: The German-language theater in Reval/Tallinn and Hans Jacob Wigandt's petition of 1630. *Journal of Baltic Studies*. 1995 Mar 1;26(1):25-44. **Koch HR, Koch KR.** Borri, the Prophet, on "he" Restitutio Humo"um" and on Lens Aspiration in the 17th Century/Der Prophet Borri über "ie" Restitutio Humo"um" und die Linsen-Aspiration im 17.

Jahrhundert. *Sudhoffs Archiv*. 2017 Jan 1;160:83. **Konczacki JM**, Aterman K. Regina Salomea pilsztynowa, ophthalmologist in 18th-century Poland. *Surv Ophthalmol*. 2002 Mar 1;47(2):189-195. **Koren N**. Jewish physicians : a biographical index. Jerusalem: Israel Univ. Press, 1973. **Kossa J**. Deutsche Herniotomen, Lithotomen und Okulisten in Ungarn. *Zwanzig Abhandlungen zur Geschichte der Medizin*. Festschrift Hermann Baas in Worms zum 70. Geburtstage. Deutsche Gesellschaft für Geschichte der Medizin, Naturwissenschaft und Technik. Hamburg: Voss, 1908: 64-72.

Krivaitienė D. Oftalmologinės sveikatos priežiūros prieinamumas Lietuvoje: realijos ir optimizavimo gairės. Vilnius. Mykolo Romerio Universitetas. 2011: 10. **Künzl, E.**, 1983. Medizinische Instrumente aus Sepulkralfunden der Römischen Kaiserzeit. Cologne: Rheinland Verlag GmbH. *Bonner Jahrbücher* clxxxii (1982), Iff. **Lascaratos J**, Marketos S. A historical outline of Greek ophthalmology from the Hellenistic period up to the establishment of the first universities. *Documenta Ophthalmologica* 1988; 68:157-69. **Lascaratos J**, Marketos S. Ophthalmological therapy in hospitals (xenones) in Byzantium. *Documenta ophthalmologica*. 1991;77(4):377-83. **Lascaratos J**. Miraculous ophthalmological therapies in Byzantium. *Documenta Ophthalmologica*. 1992; 81(1):145-52. **Lascaratos J**. Ophthalmology in Byzantium (10th-15th centuries). *Medicina Nei Secoli. Arte e Scienza. J History Medicine*. 1998;11(2):391-403. **Leffler CT**, Klebanov A, Samara WA, Grzybowski A. The history of cataract surgery: from couching to phacemulsification. *Annals of Translational Medicine*. 2020 Nov;8(22). **Leffler CT**, Peterson E. Glaucoma in the European Middle Ages and Renaissance. In: Leffler CT (ed.). *The History of Glaucoma*. Amsterdam: Wayenborgh, 2020: 75-111. **Leffler CT**, Samara WA, Hadi TM, Salman A, Khan FA. Glaucoma in the Medieval Arabic World. In: Leffler CT (ed.) *The History of Glaucoma*. Amsterdam: Wayenborgh, 2020: 47-73. **Leffler CT**, Schwartz SG, Peterson E, Busscher J. Cataract couching and the goat's eye. *Acta ophthalmologica*. 2018 Nov;96(7):755-6. **Leffler CT**, Schwartz SG. A family of early English oculists (1600-1751), with a reappraisal of John Thomas Woolhouse (1664-1733/1734). *Ophthalmology and eye Diseases*. 2017 Sep 28;9:1179172117732042. **Leffler CT**, Schwartz SG. Hydrophthalmia and Paracentesis. In: Leffler CT (ed.). *The History of Glaucoma*. Amsterdam: Wayenborgh, 2020, pp. 137-151. **Leffler CT**, Wainsztein RD. The first cataract surgeons in Latin America: 1611–1830. *Clinical Ophthalmology (Auckland, NZ)*. 2016;10:679. **Lind LR**. Studies in Pre-Vesalian Anatomy: Biography, Translations, Documents. Philadelphia: American Philosophical Society; 1975. **[Lorrain] La Famille des Médecins Callot, a Propos d'une Épitaphe de l'hospice Saint-Julien a Nancy (1689)**. *Bulletin Mensuel de la Societe d'Archeologie Lorraine et du Musee Historique Lorrain*. 2nd Serie, Tome 1. 1901. Nancy. pp. 184-5. **Lubamersky L**. Unique and Incomparable The Exceptional Life of the First Female Doctor in Poland, Regina Salomea Pilsztynowa. *The Polish Review*. 2014 Apr 1;59(1):87-100. **Lucian**, Harmon AM (trans.). *Lucian of Samosata, complete works in 8 volumes* (Loeb Classical Library, LCL). London: Heinemann, 1923: 100-101. **[Luzern] Der Geschichtsfreund: Mitteilungen des Historischen vereins der fu nf orte Luzern, Uri, Schwyz, Unterwalden ob und nid dem Wald und Zug, Volumes 87-88. Lucerne. Karl und Nicolau Benziger, 1932. p. 257. **Márquez de Aracena R**. The "mistress of healing eyes" in 15th century Spain. *The Israel Medical Association Journal: IMAJ*. 2012 Jul 1;14(7):465-6. **Márquez-de-Aracena-del-Cid R**. Una cirujano oculista en el siglo XVIII: Victoria de Félix. *Archivos de la Sociedad Española de Oftalmología*. 2009;84(12):641-2. **Marx R**. Geschichte der Augenheilkunde in Lubeck. Lubeck. Akademie Lubeck. 1970. **Mattiesen Druck von C**. Sitzungsberichte der Gelehrten Estnischen Gesellschaft. Dorpat: Anrjew, 1901: 191-3. core.ac.uk/download/pdf/14489711.pdf **McVaugh MR**. Cataracts and hernias: aspects of surgical practice in the fourteenth century. *Med Hist*. 2001 Jul;45(3):319-40. **McVaugh MR**. Medicine before the plague: practitioners and their patients in the crown of Aragon, 1285-1345. Cambridge: Cambridge University Press, 1993: 55. **Meyer-Steineg Th**. Die 'Starnadel' aus Kos, Th. Meyer-Steineg. *Chirurgische Instrumente des Altertums*. Jena: Fischer, 1912, Tables 8, 10. [Archive.org](https://archive.org) **Ming C**. The transmission of foreign medicine via the silk roads in Medieval China: A case study of Haiyao Bencao. *Asian Medicine*. 2007 Oct 16;3(2):241-64. **Moser E**. Königsberger Theatergeschichte. Karg & Manneck, 1902. **Muralt J von**. *Schriefften von der Wund-Artzney*. Thurneysen, 1711. **No author listed**. Hiérosme Cellier, opérateur et oculiste. Available from: francearchives.gouv.fr Accessed April 27, 2022. **No author listed**. Historia de la oftalmología: inventario de la curandera Beatriz de los Ríos (1584). investigadoresrb.patrimonionacional.es/node/6108 Accessed Nov. 27, 2018. **No author listed**. Jean Ambroise (Imprimeur) fr.wikipedia.org Acddssed April 27, 2023. **No author listed**. VI. Wandernde Aerzte, Spezialisten. *Der Geschichtsfreund: Mitteilungen des Historischen Vereins Zentralschweiz*. 1932; 87: 295-302. **Nutton V**. Roman Oculists. *Epigraphica*. 1972; 34: 16-29. **Nutton V**. Renaissance medicine: a short history of European medicine in the sixteenth century. New York: Routledge, 2022. **Olivier E**. *Medecine et sante dans le pays de Vaud - Des origines a la fin du XVIIe siecle*. Lausanne: Payot, 1962. **Olivier E**. *Medecine et santé dans le pays de Vaud. Au XVIIIe siècle, 1675-1798*. Lausanne: Payot, 1962. **Palmero JR**. Antonio Lavedan (fl. 1753-1819) y la Real Academia de Cirugía de Valladolid. *Anales de la Real Academia de Medicina y Cirugía de Valladolid*. 2014(51):161-200. **Pansier P**. *Repertorium ocularium inter Graecos Romanosque*. Janus 1905; X : 473-481, 523-531, 561-9, 618-28; 1906; XI: 1-9, 58-62. **Pardon-Labonnelie M**, Uher E, Spasić-Durić D. Les collyres estampillés de Mésie supérieure. Un nouveau regard sur la tombe du «médecin et chirurgien oculiste de Viminacium». *Histoire des sciences médicales*. 2020:55-84. **Park K**. Doctors and medicine in early Renaissance Florence. Princeton University Press; 2014. p. 280. **Park K**. Stones, bones and hernias: Surgical specialists in fourteenth-and fifteenth-century Italy. In: *Medicine from the Black Death to the French Disease*. Routledge: 1998: 110-130. **Paudler A**, Hantschel F. Mitteilungen Des Nordböhmisches Exkursions - Klubs. Schriftleitung: Prof. A. Paudler und Dr. F. Hantschel. Leipz. Jahrgang. 1905, 436-7. **Paulus C**. Leibärzte und höfische Kommunikation im Europa des ausgehenden Mittelalters. In: Hilber M, Taddei E (ed.) *In fürstlicher Nähe – Ärzte bei Hof (1450-1800)*. Innsbruck. Universitat Innsbruck, 2021. **Perales RM**. La formación enfermera de la Orden Hospitalaria de San Juan de Dios en los siglos XVI y XVII: una mirada desde el siglo XXI. *Archivo-Museo San Juan de Dios*; 2013. **Pérez-Cambrodi RJ**, Ascaso FJ, Diab F, Alzamora-Rodríguez A, Grzybowski A. Hollow needle cataract aspiration in antiquity. *Acta ophthalmologica*. 2015**

Dec;93(8):782-4. **Philostratus**, Conybeare FC (trans.). The Life of Apollonius of Tyana. London: Heinemann. 1912.

Pilsztynowa RS, Rocznik W (trans.). My life's travels and adventures: an eighteenth-century oculist in the Ottoman Empire and the European hinterland. New York: Iter Press; 2021: 75. **Popelka F**, Pirchegger H. Geschichte der Stadt Graz. 1960. P. 663. **Ranum O**, Ranum P. Denis Charpentier, Cardinal Richelieu's secretary. The Ranums' Panat Times. Dec. 2014. Vol. 1. ranumspanat.com **Rizzi G**. Un contratto notarile quattrocentesco per operazione di cataratta. In: Santoro M. Atti Del II. Convegno Della Marca per la Storia della Medicina. May 4-5, 1957. Fermo. Antica Università. **Robert MG**. La Révocation de l'Edit de Nantes et la dispersion des professionnels de santé hors de France. Histoire des sciences médicales. 2005;39(4):415. **Rojo Vega A**. Cirugía y curanderos en el noroeste de España. Siglo XVIII. Revista española de investigaciones quirúrgicas. 2010;13(3):137-44. **Rothenhöfer P**. Mantias—an eye doctor of the emperor Tiberius. Gephyra. 2018 May 5;15:191-5. **Ruben Maslatón S**. Historia de los judíos de España y Portugal : situación social, política y religiosa ; basándose en textos de José Amador de los Ríos; posee apéndice al final de la obra. Mexico: Jerusalem de Mexico. 2014. **Russell GA**. Physicians at the Ottoman court. Medical history. 1990 Jul;34(3):243-67. **Said HM**. Tibb and tibbi institutions in Turkey. Bull Indian Inst Hist Med Hyderabad 1988;18(1):47-74. **Saliceto (William of)**, Rosenman LD (trans.). The Surgery of William of Saliceto: Written in 1275. San Francisco. 1998: 43. **[Salzburger]** Mitteilungen der Gesellschaft für Salzburger Landeskunde, Gesellschaft für Salzburger Landeskunde. Volume 138. 1998. pp. 205-6. **Savage-Smith E**. The practice of surgery in Islamic lands: myth and reality. Social history of medicine. 2000;13(2):307-21. **Scacchi D**. Subsidiū medicinae, in quo, quantum docta manus praestet ad immanes morbos evellendos mirum in modum elucescit. Apud Bartholomaeum & Simonem Ragusios fratres, Urbini, 1596. **Schevensteen AFC**. Quelques ambulants a Anvers a la fin du XVIe Siecle. Communication faite au Vie Congres international de l'Histoire de la Medecine. Leyden-Amsterdam. Anvers 1929, vol 8. p. 11. **Schevensteen AFC**. Les oculistes ambulantes dans les provinces Belges aux XVIIe et XVIIIe siècles. Bruxelles. Goemaere Imprimeur du Roi. 1924. **Schrauf K**. Acta Facultatis Medicae Universitatis Vindobonensis. Vol. I. 1399-1435. Wien: 1894. Medicinischen Doctorencollegiums. **Schrauf K**. Acta Facultatis Medicae Universitatis Vindobonensis. Vol. II. 1436-1501. Wien: 1899. Medicinischen Doctorencollegiums. **Schrauf K**. Acta Facultatis Medicae Universitatis Vindobonensis. Vol. III. 1490-1558. Wien: 1904. Medicinischen Doctorencollegiums. **Senfelder L**. Acta Facultatis Medicae Universitatis Vindobonensis. IV. 1558-1604. Wien. 1908: Wiener Medizinischen. **Senfelder L**. Acta Facultatis Medicae Universitatis Vindobonensis. V. 1605-1676. Wien: 1910. **Senfelder L**. Acta Facultatis Medicae Universitatis Vindobonensis. VI. 1677-1724. Wien. 1912. Wiener Medizinischen. **Senfelder L**. Öffentliche Gesundheitspflege Und Heilkunde. I. Die Alteste Zeit Bis Zum Ausgange des XV. Jahrhunderts. Wien: Holzhausen. 1904: 247-8. **Shatzmiller J**. Jews, Medicine, and Medieval Society. Berkeley, Calif: University of California Press, 1994. **Shatzmiller J**. Jews, Medicine, and Medieval Society. Berkeley, Calif: University of California Press, 1994. **Siegl K** (ed.). Die Kataloge des Egerer Stadtarchivs. Czechoslovak Republic. Stadtgemeinde Eger, Eger, 1900, p. 222. **Singer J**. Blindness and therapy in late medieval French and Italian poetry. Boydell & Brewer Ltd; 2011: 136-146. **Smith W**. Dictionary of Greek and Roman Biography and Mythology. Vol. II. London: Taylor, 1850: 1113-4. **Sokol S**. Wędowni operatorzy w Gdańsku w XVI i XVII w., [Odb. z: Rocznik Gdański 1956/1957 t. 15/16], Gdańsk 1958. P. 224-246. **Stefanutti U**. Documentazioni cronologiche per la storia della medicina, chirurgia e farmacia in Venezia: dal 1258 al 1332. Venezia. Ferdinando Ongania Editore. 1961. **Szála E**. A szemorvoslás múltjából-a soproni Erzsébet Kórház és a szemészet története. 2008. **Szála E**. A szemorvoslás múltjából-a soproni Erzsébet Kórház és a szemészet története. 2008. **'Uşaybi'a**, Kopf L (trans.), Plessner M (trans.) Ibn Abi 'Uşaybi'a. History of Physicians. Jerusalem. 1971. **Terrada ML**. Las prácticas médicas extraacadémicas en la ciudad de Valencia durante los siglos XVI y XVII. Dynamis: Acta Hispanica ad Medicinae Scientiarumque Historiam Illustrandam. 2002;22:85-120. **Theophilus of Antioch**, Grant RM (trans.). Theophilus of Antioch ad Autolycum. Oxford: Clarendon Press, 1970: 5-11. **Thevenin F**, Parthon G. Les oeuvres de maistre François Thevenin...Paris: Rocolet, 1658. **Thorndike L**. Dictionnaire Biographique des Médecins en France au Moyen Age. Ernest Wickersheimer. Speculum. 1937;12(3): 399-400. **Torres Fontes J**. Los médicos murcianos en el siglo XV. Miscelánea medieval murciana. 1973. **Truc H**, Pansier P. Histoire de l'ophtalmologie à l'Ecole de Montpellier du XIIe au XXe siècle; contribution à l'histoire de l'ophtalmologie française. Paris: Maloine, 1907. **Unkovskaya MV**. Brief Lives: a Handbook of Medical Practitioners in Muscovy, 1620-1701. London: Wellcome Institute. 1999. **Urban M**. Bur Geschichte des Erzgebirges. Eine Studie von Dr. M. Urban. In: Erzgebirgs-Seitung. Herausgegeben vom Nordwestböhmisches Gebirgsvereins -Verband. Geleitet von Eduard Meusch, k. k. Bezirksschulinspector in Seplik. Teplitz. 1893: 214-15. **'Uşaybi'a**, Kopf L (trans.), Plessner M (trans.) Ibn Abi 'Uşaybi'a. History of Physicians. Jerusalem. 1971. **Vardanian SA**. Amirdovlat Amasiatsi: A Fifteenth-century Armenian Natural Historian and Physician. Academic Resources Corp; 1999. **Vegetius Renatus**, Publius Flavius. Pub. Vegetij viri illustris Mulomedicina. Basileae: Petrum Pernam. 1574. **Vegetius Renatus**, Publius Flavius. Vegetius Renatus of the distempers of horses, and of the art of curing them. London: Millar. 1748. **Weinrich B**, Plöckinger E. Niederösterreichische Ärzteschichte der Medizin und der Mediziner Niederösterreichs. Wien: Möbius, 1990. **Weiss N**. Augenheilkunde in Graz. Spektrum der Augenheilkunde. 2013 Dec;27(6):258-68. **Whaley L**. Women and the Practice of Medical Care in Early Modern Europe, 1400-1800. Springer. 2011. p. 14. **Wichner J**. Beiträge zu einer Geschichte des Heilwesens, der Volksmedizin, der Bäder und Heilquellen in Steiermark bis incl. Jahr 1700. Mittheilungen des historischen Vereines für Steiermark. Graz; 1885;33:3-123. S. 20. **Wickersheimer E**. Dictionnaire biographique des médecins en France au Moyen Age. Paris: Droz, 1936. Vols. 1 and 2. **Zajaczkowski T**. History of education in medicine and surgery, first hospitals—development of urology in Danzig/Gdańsk. Pomeranian Journal of Life Sciences. 2014;60(1):118-33.

3. A Chronology of Ophthalmologists in Asia, including India, China, and Japan (50 CE).

Christopher T. Leffler, MD, MPH.¹

India (50 CE).

Apollonius of Tyana (3 BCE – 97 CE) was connected with ophthalmic healings at the Temple of Asclepius at Aegae and the Temple of Serapis in Egypt, and also, close to **50 CE**, with healing at Taxila, and specifically ophthalmic healing between the Hyphasis and Ganges Rivers (Leffler “India” 2024, p. 167-8).

The **Lotus Sutra (50 CE)** evinces an understanding of amblyopia, because it is suggested that curing the congenitally blind has a special spiritual significance.

The **Nirvana Sutra (150 CE)** was explicit that even an excellent physician who could cure blindness could not cure congenital blindness. Therefore, this sutra indicates explicitly an understanding of amblyopia (Leffler “India” 2024, p. 172-3).

Nāgārjuna (250 CE). In the traditions of both India and China, the Uttaratantra, which is the volume of the Susrutasamhita which describes cataract couching, was appended by a figure named Nagarjuna. In the tradition of China, this is the Mahayana Buddhist leader Nāgārjuna (c. 150-c. 250 CE). In the tradition of India, the identity of Nāgārjuna was unspecified, and could be any number of early Common Era medical figures. Nāgārjuna was clearly the primary source for the subsequent Ayurvedic authors whose treatises described cataract couching (Leffler “India” 2024).

Ghoṣa (5th century). Ghosa, a monk from Takṣaśīlā (Taxila), was asked to travel to China to heal a blind prince who had heard of the monk from travelers. The monk brought the prince to sight by bathing his eyes with tears shed by those who heard his religious instruction. This event would presumably have occurred before Taxila declined in the **5th century**.²

Vāgbhaṭa I and II (6th to early 8th century). Vāgbhaṭa I, the author of the Aṣṭāṅgasamgraha, and Vāgbhaṭa II, the author of the Aṣṭāṅgahrdayasamhitā, wrote Ayurvedic treatises describing cataract couching. Their methods clearly were derived from those of Nāgārjuna in the Susrutasamhita, though there were some edits and additions.

A monk from a region West of China, possibly from India, was the ultimate source for the teachings in The Indian Classic on Eye Diseases, which described cataract couching, and was recorded in China in **752 CE** (see China).

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² Leffler “India” 2024, p. 167. (Tt 2017:7, tr. Huber, Sūtrālamkāra 213f)

Ugrāditya was a Jain author who described cataract couching in his treatise *Kalyāṇakārakam*, in the first half of the 9th century. He presented at the court of Amoghavarsha I (reign 814–878 CE), whose capital was in South India at Manyakheta (Malkheda). (Leffler “India” 2024, p. 203-4)

It is not clear that any of the Ayurvedic treatise authors writing about cataract surgery (Nāgārjuna, Vāgbhaṭa I and II, and Ugrāditya) were personally familiar with cataract surgery, even though they compiled medical knowledge from multiple specialties.

During the Tang Dynasty (618-907 CE), a Chinese monk travelled to India, and upon his return to China, could treat infantile glaucoma and pterygium (see China).

Al-Gurgani (d. 1087), known as Zarrin-Dast (The Golden Hand), of Persia, wrote that the Indian cataract method involved a knife (*Nishtar*) followed by a solid needle to couch the cataract (Leffler “India” 2024, p. 207).

David Armenicus, who wrote in the 13th century in Italy, claimed to have lived in Baghdad, and drawn on Indian sources. Armenicus described cataract couching in May, June, or September (which was consistent with Ayurvedic recommendations to avoid hot and cold seasons) with a cataract needle of gold, silver or fine steel (Leffler “India” 2024, p. 181, 200).

Rashīd al-Dīn (c. 1247-1318) wrote that the medical school he founded in Tabriz had oculists, and employed physicians from Egypt, Syria, “Hindustan”, and China (Leffler “Silk Road” 2024, pp. 101-102).

The Persian ophthalmologist ‘**Ayn-al-Ḥaqq Gīlānī** (d. 1003 AH, 1595) settled in Burhanpur, in Madhya Pradesh (Leffler “India” 2024, p. 209).

The Persian ophthalmologist and poet, ‘**Ayn-al-Molk Širāzi** (d. 1595), who used the pseudonym Dawāī, served as the ṣadr of Bengal under Jalāl-al-Din Akbar (reign 1556–1605), and wrote *Fawāid al-ensān* (comp. 1595), a work on materia medica (Leffler “India” 2024, p. 209).

Šams-al-Dīn ‘**Alī Ḥosayn Jorjānī** translated into Persian ibn Isa’s *Taḍkeratal-kaḥḥālīn* (Biography of the ophthalmologists) and added a critical appendix, at the request of the sultan of Golconda, Moḥammad-‘**Alī Qoṭbšāh** (reign 1580–1611) (Leffler “India” 2024, p. 209). This entity ruled over the Deccan plateau in Telangana.

Indigenous couchers of Bhutan in 1775 obtained their instruments from Calcutta, and used a lancet followed by a copper probe (Leffler “India” 2024, p. 210).

In the 19th century, British ophthalmologists are identified in India.

China (4th century).

The Chinese doctor Bian Que of the 4th century was said to treat eye and ear diseases at Lo Yang (Deshpande 2012, p. 13).

The work “History of Jin Dynasty” [265 to 420 CE] records an emperor having an eye tumor excised (Deshpande 2012, p. 13).

The story of the Buddhist monk **Shan Daokai** of the Jin Dynasty (266 to 420 CE) was told by Shi Huijiao (497-554 CE), who compiled biographies of Buddhist monks from 67 CE to 519 CE. Daokai came from a family from Dunhuang in Western China. Daokai was offered a horse, but preferred to travel by walking. He travelled to Fuling (in Quanjiao, Anhui), Xiping (between Qinghai and Gansu Provinces), Nan'an (near Leshan, Sichuan Province), Yecheng, and Linzhang. There, Shi recounted: “Daokai knew how to cure eye diseases. At that time, Shi Tao, the Prince Qin of the Later Zhao Dynasty, invited him to treat his eyes. After putting medicines on, it hurt a little; Shi Tao was scared, but was finally cured.” (Shi Huijiao 2022, pp. 431-3) Later, Daokai travelled to Xuchang, Jianye, Nanhai and then Mount Luofu.

Ghosa (5th century). Ghosa, a monk from Taxila, travelled to China to treat blindness (see India).

In the 7th century, **Sun Simiao** wrote *Beiji Qianjin yaofang* (Emergency Medicinal Formulae Worth a Thousand Pieces of Gold). Sun Simiao advised eating liver of dog, cow, goat, or rabbit to brighten the eyesight (Deshpande 2012, p. 39). Sun Simiao wrote that pterygia in people and horses be removed with a feather to turn the lesion, followed by sucking the lesion, a hook-shaped needle to turn the lesion, and then cutting the lesion off (Deshpande 2012, p. 38-9).

In the History of the North (by Beishi) set during the Northern Zhou period (557–580), a 16-year-old boy dreamed that his grandfather's blindness of 3 years was cured by an old man with a “golden comb” (Leffler “India” 2024, p. 197).

In 6th-century Tibet, the king Tagri Nyenzig (Stag ri gnyan gzigs), who was born blind, was healed by a doctor named **Hashaje** (Hazha rje) summoned from Hasha or Asha, which might be in Eastern Tibet, or perhaps Chinese Turkestan. The surgery was performed with a “golden surgical instrument.” Upon restoration of his vision, the king immediately saw “a wild sheep (gnyan) walking in the mountain like a tiger.” (Leffler “India” 2024, p. 198; Leffler, Klebanov...2020)

In 683, Emperor Gaozong had a headache and blindness, successfully treated by Qin Minghe, who used needles on the emperor's head in two places. Scholars have suggested that the doctor was a Nestorian missionary from Daqin, (the eastern Roman Empire) (Leffler “Silk Road” 2024, p. 87).

Xie, a Buddhist monk who resided in Qi Zhou, and had come from Long Shang at the Western border of the Tang Empire wrote The Indian Classic on Eye Diseases (*Tianzhu jing lunyan*), which was contained in Medical Secrets of an Official from 752 CE. Xie attributed these teachings to a Hu (barbarian) monk from a Western region, perhaps India. Xie described cataract couching with a “golden comb” (Deshpande 2012, p. 77-80; Leffler “India” 2024, p. 198).

The monk Jianzhen (683-**763**) of China had an ophthalmic ailment treated by a “**Tartar**”, from the West of China, but Jianzhen ultimately had gone blind before his voyage to Japan. It is not known whether the treatment was couching for cataract, or treatment of angle-closure glaucoma, or another condition (Leffler “East Asia” 2020, p. 125-6; Mishima 2004, p. 42, 44).

In **804 CE**, the Japanese monk Kukai learned ophthalmic healing while in China (see Japan).

In **814 CE**, the poet Bo Juyi had failing eyesight, mentioned *Longshu lun* (Nagarjuna’s treatise), and wrote that people disagreed about whether it was beneficial to regain eyesight by scraping with a golden comb (Deshpande 2012, p. 25).

The **early 9th century** Chinese ophthalmic treatise *Longshu pusa yanlun* (Bodhisattva Nagarjuna’s Treatise on the Eyes) describes cataract couching with a golden needle (Deshpande 2012, p. 249). *Longshu pusa yanlun* also contrasted “Persian” and “Han” medicines (Deshpande 2012, p. 44, 90).

In **831**, when Li Deyu went to Nanzhao in Yunnan Province to bring captives from Chengdu and Huayang back to Chengdu, he noted that one of the captives was an eye doctor from Daqin (Leffler “Silk Road” 2024, p. 87).

The poet Liu Yuxi (772-**842 CE**) wrote about how cataract surgery was successfully carried out by a Brahmin priest (Deshpande 2012, p. 25).

During the Tang dynasty, (618–**907 CE**), a Chinese monk named *Yu si wei jing*, travelled to India and brought back medicinal drugs, and then treated infantile glaucoma and pterygium (Deshpande 2012, p. 22).

The Mogao caves of Dunhuang were decorated with Buddhist tales between the 4th and the 14th century. The Jataka of Prince Great Charity is based on the *Shanshi daizi ruhai pin* (Chapter of Prince Shanshi Goes to Sea) in *Xianyu jing* (Sutra on the Wise and the Foolish). The Evil Friend (Eyou) tale first emerged during the Tang Dynasty (618-907), and continued to be described through the Song Dynasty. The Evil Friend Jataka originated from *Dafang bian fobaoen jing* (Repaying Debts of Gratitude Sutra). The Shanyou Jataka is depicted in Dunhuang Cave 85, from the Later Tang Dynasty (c. **907**). While Prince Shanyou is asleep, his evil brother Eyou pricks his eyes with thorns and takes a wish-granting jewel away (depicted in the center of the mural). Next, an ox licks the prince’s eyes to remove the thorns. Next, the prince meets his wife (with the meeting depicted to the right of the ox drawing) and marries her, but his wife does not believe he is a prince. However, the prince vows that if he is lying, he should never regain his eyesight. After this vow, as he is sitting facing his wife in the lower right portion of the mural, he regains his eyesight (Wu 2008, pp. 212-215).

In the **early 11th century**, surgeon **Hui Qing** of China imported a book on eye treatment, *Zhiyanfang*, to Kyushu, Japan (Mishima 2004, pp. 64-5).

The **late 11th century** Chinese ophthalmic treatise *Longmu zong lun* (Nagarjuna’s Comprehensive Treatise) described cataract couching with a golden needle (Deshpande

2012, p. 249). This treatise contains a preface entitled “Secretly transmitted ophthalmology of the Daoist Bao Guang”. There was a man named Gao Guang in the 13th century (Kovacs 1998, p. 46).

Liu hao was a physician who wrote *Liu hao yan lun zhun (shen) de ge* (Eye Care Poems from Liu Hao’s Eye Treatise), which was mentioned in a compilation of 1161 CE. This work is lost (Deshpande 2012, p. 31).

Li Gao (1180-1251) wrote Secret Records of the Chamber of Orchids, which described glaucoma treatment (Deshpande 2012, p. 50).

Rashīd al-Dīn (c. 1247-1318) wrote that the medical school in Tabriz had oculists, and employed physicians from China (see India).

The Japanese monk **Majima Seigan** (d. 1379), who taught cataract couching, was reputed to have learned this technique in China (see Japan).

The treatise *Yin-hai jing-wei* which could date from as late as the 15th century, described cataract couching with a golden needle (Kovacs 1998, p. 54, 404-6).

In the 17th century, **Zhang Feizhou** performed cataract needling, which he described in Zhang’s Treatise of General Medicine (Deshpande 2012, p. 50).

Cataract surgery was recorded in Tibet in the 17th century, using an “eye spoon” made of copper, and a “she yak’s tongue spoon” made of gold (Leffler “India” 2024, p. 198).

Dawbigney Turberville (1612–1696) of England learned from a ship captain who had spent 15 years in Peking the procedure of paracentesis for a condition the Europeans called hydrophthalmia. John Thomas Woolhouse or his father witnessed Turberville perform the procedure, apparently some time before 1688 (Leffler “Hydrophthalmia” 2020, p. 142).

Japan (701 CE).

In 701, Emperor Monmu enacted the legal code *Taiho ritsuryo* which established a Bureau of Medicaments, which, in turn, specified that specialists in treatment of eye and ear disorders must study for 4 years (Mishima 2004, p. 43). The Taiho specified that monocular citizens were not required to work, and bilaterally blind citizens were granted a helper (Mishima 2004, p. 43).

In 804, the monk **Kukai**, also known as Kobo Daishi, went to China to learn Buddhism. As he suffered from eye diseases himself, he studied ophthalmic healing in China, and upon his return to Japan taught the practices, along with Buddhism, at Mt. Koya in Wakayama prefecture (Mishima 2004, p. 137).

The monk Seigen Sojibo, possibly from Nagoya, was well-known for treating eye diseases in the period 938 to 946 (Mishima 2004, p. 89).

The earliest known description of cataract couching is the mention of the golden needle to cure blindness in *Ishinpo*, a medical treatise presented to the Japanese court in **984 CE** (Mishima 2004, p. 56).

Emperor Sanjo (reign 1012-**1016**) had clear beautiful eyes, but could not see the screens and combs of the women visiting the palace. Monks recommended pouring cold water on his head, but the condition worsened, and he died at age 42 years (Mishima 2004, p. 62-63).

Fumiwara Takaie (979-**1044**) had an eye disease and therefore sought to obtain a government post in Kyushu for treatment, possibly with surgeon **Hui Qing**, who imported a book on eye treatment, *Zhiyanfang*, from China (Mishima 2004, p. 63-65).

The scroll *Yamai no Sôshi*, by Tosa Mitsunaga, dated to the end of the Heian Era, about **1184 CE**, depicts an unsuccessful ocular needling, believed to represent cataract couching, in a man from Nara (Leffler “Silk Road” 2024, p. 27; Mishima 2004, p. 64)

The poet Fujiwara Sadaie (1162-**1241**) had eye diseases, and consulted with monk physicians, who treated with leeches, and also performed needle perforation and pus extraction from his eyelid, which had been swollen, possibly from an abscess (Mishima 2004, p. 81).

An ophthalmic procedure said to be cataract couching, with the patient supine, is depicted in a Japanese manuscript dated to the **13th century** (Leffler “Silk Road” 2024, p. 28; Mishima 2004, p. 78).

Emperor Kameyama (reign 1260-**1274**) had jaundice, which was identified by the yellow color of his eyes. This was successfully treated with moxibustion (Mishima 2004, p. 80).

In **1357**, the monk **Majima Seigan** (d. 1379) practiced cataract couching at a temple near Nagoya, and taught the technique to practitioners who came from around Japan. According to tradition, Bhaisjyaguru Buddha appeared in a dream to Majima Seigan and promised to teach him the technique, and the next day, an ophthalmic text appeared in front of the statue of Buddha. His successors in the period from 1601 to 1610 wrote that Majima had travelled to China to learn from Longshu Pusa (i.e. Nagarjuna) (Deshpande 2012, p. 28; Mashima 2004, p. 85-7).

The oldest **spectacles** in Japan are reputed to have been worn by the shogun Ashikaga Yoshiharu (1511-**1550**), and are right eye +4D, and left eye +5D (Mishima 20004, p. 143).

In **1551**, the Jesuit Francisco Xavier brought spectacles to Yamauchi, the ruler of Yamaguchi (Mishima 2004, p. 143).

Around **1600**, **Yamaguchi Dohon** practiced cataract needling and removal of pterygium (Mishima 2004, p. 138-9).

In **1632**, a monk successfully treated the eye disease of a princess, and the temple in Nagoya where he practiced was granted the name *Myogen-in* (Institute to Give Light) (Mashima 2004, p. 89-91).

Yakichi Sadatoshi (d. **1671**) was the ophthalmologist patriarch of the Tawara ophthalmology family (Mishima 2004, p. 139, 150).

Mii Shinbei (1620-**1698**) in Sanuki in Kagawa prefecture learned how to perform cataract surgery from the monk Sekkei of Konkoin, and performed horizontal perforation of the cataract instead of vertical needling (Mishima 2004, p. 140).

Majima Kogan was an active eye specialist in Nagoya from 1709-**1720** (Mashima 2004, p. 108). Other eye specialists with the name Majima can be identified in Osaka in 1663, in Inuyama in 1606, in Sakamoto in 1739, in Edo 1636, in Kyoto in 1707. Mashima (2004) has compiled these and other practitioners (pp. 108-9).

In 1742, Negoro Toshuku, who was personally familiar with cataract surgery, wrote an ophthalmic text, *Ganmoku gyokai*, which was well-known in Kyoto and Osaka (Mishima 2004, pp. 137-8).

The eye disease of a prince of Emperor Momozono (reign 1748-**1762**) was successfully treated at the Nagoya temple by a monk (Mishima 2004, p. 90).

Surgeon **Hanaoka Seishu** (1760-1835) performed cataract surgeries, and also was reputed to have performed a mastectomy with general anesthesia from datura stramonium in **1805** (Mishima 2004, p. 159-60).

In **1830**, **Majima Enyo** (d. 1855), who had studied Dutch medicine in Nagasaki, wrote an ophthalmology textbook (*Ganka shuyo settyu Daizen*).

After **1871**, the first known cataract extractions were performed in Japan with the arrival of German teachers Mueller (1824-93), Schulze (1840-1924), and Scriba (1848-1905) (Mishima 2004, p. 198).

Korea (1465 CE).

The Korean Buddhist monk **Jin Li** visited China at the start of the Ming dynasty (1368-1644), and upon his return published the treatise *Yifang leiji*, which contains portions of *Longshu (pusa) yanlun*, and was published in Korea in 1465 CE (Deshpande 2012, p. 29).

Indonesia (1604).

In 1604, Richard Surfleet of England, who practiced cataract couching, travelled to the East Indies, including Bantam and the Maluco Islands, but he died on the return voyage (Leffler AJO 2021).

References.

Cooke MA. Richard Surfleet, translator and practitioner in physic. *Medical History*. 1981;25(1):41-56. **Deshpande** VJ, Fan K Wai. *Restoring the Dragon's Vision (Nagarjuna and Medieval Chinese Ophthalmology)*. Hong Kong: City University of Hong Kong, 2012. **Kovacs** J, Unschuld PU. *Essential Subtleties on the Silver Sea. The Yin-hai jing-wei: A Chinese Classic on Ophthalmology*. Berkeley: Univ. of California, 1998. **Leffler** CT, Klebanov A, Samara WA, Grzybowski A. The history of cataract surgery: from couching to phacoemulsification. *Annals of Translational Medicine*. 2020 Nov;8(22). **Leffler** CT, Ka Wai Fan. The early history of glaucoma in East Asia. In: **Leffler** CT (ed.). *The History of Glaucoma*. Amsterdam: Wayenborgh, 2020, pp. 121-36. **Leffler** CT, Schwartz SG. Hydrophthalmia and Paracentesis. In: **Leffler** CT (ed.). *The History of Glaucoma*. Amsterdam: Wayenborgh, 2020, pp. 137-151. **Leffler** CT, Schwartz SG, Peterson E, Couser NL, Salman AR. The first cataract surgeons in the British Isles. *American journal of ophthalmology*. 2021;230:75-122. **Leffler** CT. Ancient and Medieval Cataract Couching along the Mediterranean and the Silk Road. In: **Leffler** CT (ed.). *A New History of Cataract Surgery*. Wayenborgh, 2024: pp. 1-113. **Leffler** CT, Brar VS, Bansal S, Salabati M. The History of Cataract Surgery in India from Antiquity to the Modern Era. In: **Leffler** CT (ed.). *A New History of Cataract Surgery*. Wayenborgh, 2024: 165-230. **Mishima** S. The history of ophthalmology in Japan. Oostende: Wayenborgh; 2004: 64-89. **Shi HuiJiao**, Tianshu Yang (trans.). *The Biographies of Eminent Monks*. Hong Kong: University of Hong Kong. 2022. p. 431-3. **Wu (Ming-Kuo Wu)**. *The Jataka Tales of the Mogao Caves, China In Anthropological Perspective*. Washington State University PhD Thesis. Dept. of Anthropology May 2008, pp. 212-15. dissertations.wsu.edu/Dissertations

4. A Chronology of Oculists and Cataract Surgeons in the British Isles (Antiquity to 1800).¹

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Roman Britain (43-410).

In the time of Caesar, there was a Celtic eye surgeon in Britain named Ariovist (Kealey 1981, p. 5).

Galen mentioned the eye salve of a British oculist named Stulus (Kealey 1981, p. 5).

Archaeologists have identified at least 9 Roman instruments from 7 sites which might be cataract needles (Table 1). However, 7 of the 9 instruments have the tip or the entire needle broken off, leaving some doubt about the original structure. Moreover, even when a complete instrument has been found, the original purpose cannot be known with certainty. Roman surgical needles had a variety of uses besides cataract surgery: fine dissection, puncturing abscesses or hemorrhoids, raising the eyelid skin, transfixing small conjunctival masses (Jackson 1997), probing, or cautery (Bliquez 2015, p. 156). At least three of the instruments from one site were made of iron, three instruments were made of copper-alloy, and one isolated handle was made of bone (Table 1). One find has been dated to the first century, and one from the second century, but the majority could date from any century of the Roman occupation (43-410 CE).

An oculist stamp from the Roman period found in 1842 at Golden in Tipperary in Ireland has an inscription interpreted to read “For Marcus Juventus Tutianus a copperas eye salve for old scars.”(Freeman 1995)

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Table 1. Roman Probes Consistent with Cataract Couching.

Year Created.	Where found.	Description.
50-59 CE.	Stanway, near Colchester, UK.	The handles of three iron instruments that were probably needles, though the functional ends were not recovered. Excavated from a burial site in 1996 (Jackson 1997).
43 - 410 CE.	The fort at Corbridge, UK.	A bone handle with a screw-thread cover might originally have attached to an ophthalmic needle (Allason-Jones 1999, p. 141). Unfortunately, the working end of the needle did not survive. The entire medical set found in the 1930s was lost during World War II (Allason-Jones 1999, p. 141). This may be the handle now on display at the Corbridge site museum (Gilson 1981). Dating presumptive, based on Roman occupation of Britain.
43 - 410 CE.	Piddington, UK.	Cataract needle of copper alloy is broken--only the handle with a rounded end, and spirally-cut stem remains. Length 10 cm from olivary end to end of stem (portion of needle remaining is minimal) (Jackson 2011, p. 256). Found by Roy Friendship-Taylor by 2011. Additional details currently unpublished (Jackson 2018).
74 - 399 CE	Isca Silurum Legionary Fortress, Caerleon, South Wales.	Cylindrical handle with needle. Functional part broken off. Copper alloy, 8.5 cm long. Dating by fort occupation. At the Newport Museum and Art Gallery. Provenance uncertain [Same as Jackson 1990, fig 4, num. 5] (Baker 2000, p. 260, 354).
c. 150 CE	Carlisle, auxiliary fort.	Cataract needle, complete. Copper alloy. 11 cm long. Provenance: Annetwell St. Excavations. Tulley House Museum, Carlisle, Inventory #A3550, Ae 881. 4-B. [Also in: McCarthy 1990: 137-8, Num. 123, Fig. 124; Jackson 1990, fig. 4, num. 1] (Baker 2000, p. 360)
43-410 CE.	Bedfordshire.	Cataract needle with broken needle tip. Contains screw thread which could have permitted placement of a cover. In Milne's collection (Jackson 1986; Milne 1907, p. 70, and pl. XVI, 7).
44-410 CE.	Brading, Isle of Wight	Found at Brading Roman Villa. Might be a cataract needle or a broken scoop probe. Found with "a bone token in the form of an eye-shaped lozenge with a central dot and ring". The room had "a mosaic with a pattern in the shape of a lozenge with a central circle" (Summerton 2007, pp. 39-40).

High Middle Ages (1066-1272). A roster of British physicians from 500 to 1154 lists no oculists (Kealey 1981, pp. 30-33). Seemingly miraculous healings were also performed by saints quite early in the Scottish medieval period, and historians have assumed that some of these accounts might relate to "surgical couching of cataract" (Hamilton 1981, p. 5). To the extent that clergy in the British Isles might have performed cataract couching during the early Middle Ages, such activities would have seen a decline after a series of religious edicts limiting or forbidding the study or practice of medicine by the clergy, including that of the Council of Tours in 1163 (Amundsen 1978; Silverman 2002) The expulsion of Jews from England in 1290 (Singer 1964) was another event which could have reduced medical and surgical knowledge in the region.

Warelwast (a patient, 12th century). Bishop William Warelwast of Exeter, of the early 12th century, was criticized for continuing to serve despite poor eyesight, but was not noted to have had his vision restored surgically (Kealey 1981, p. 60).

Baldwin (1097). Baldwin, a physician and abbot (d. 1097), trained in medicine at Chartres (France), and subsequently became the physician to Edward the Confessor in

1059. In 1065, Baldwin became the abbot of St. Edmundsbury. He traveled to Rome in 1071 to lay a political dispute with a bishop named Arfast before Pope Alexander II. Arfast subsequently suffered an eye injury from a thorn while riding through the forest. Baldwin only agreed to treat Arfast's eye after receiving written guarantees that Arfast would not pursue their political dispute (Talbot 1965, p. 20).

Roger of Lacock (1233). Roger of Lacock, the royal physician (d. 1233), made an eye ointment with fennel, rue, musk, and attic honey (Talbot 1965, p. 313).

Henry Grossus (c. 1200). Hamelin de Warenne, Earl of Surrey (c. 1130 – 1202) was said to be cured of his blindness from an “albugo”(Robertson 1875, p. 452) (white spot) in one eye by touching a covering from the tomb of Thomas Becket (Keefe 2004), who was murdered in 1170. This cure was viewed as a miracle which justified Becket's sainthood. Master Henry Grossus, physician, made an eye lotion for the Earl Warenne (Talbot 1965, p. 80).

John of Gaddesden (1316). John of Gaddesden (c. 1280-1349) was an English physician who wrote the medical treatise *Rosa anglica* (Gottfried 1986, p. 200). As Gaddesden is unaccounted for between 1307 and 1316, Talbot has suggested that this would be a time when Gaddesden could have studied abroad (Talbot 1967, p. 109). There is some evidence that Gaddesden trained at Montpellier (Capener 1961, Capener 1972). Gaddesden indicated that he had seen cataract couching, but did not specify whether his exposure was in England or on the Continent:

“But if the physician or surgeon knows how to cure it [cataract], he will obtain high fees, for it is a common ailment. And I have seen men doing wonders with a needle, so that they were held in high esteem and received more money for one cure of cataract than for ten other diseases.”(Talbot 1967, p. 114)

Gaddesden also described the procedure:

“the patient should sit in front of the physician in a well-lighted place whilst the sun is shining and there is no shadow. His knees should be drawn up to his chest, and bound together, so that he is almost lying down. Then he should look at the end of his nose, opening the eye that is affected: meanwhile the assistant should hold his head, bent back slightly and lift up the eye-lid. Then take the instrument or a steel needle with a round, sharp head, and begin to pierce from the side of lachrymal gland in the conjunctiva pressing it towards the pupil, beginning from the corner of the eye, and let him pierce until he comes to the covering and the pupil between the two tunics, penetrating to the empty space of the eye which is in front of the pupil. And let the surgeon hold the eye until the perforation is complete, and press the needle down until it is hidden beneath the cornea.”(Talbot 1967, p. 114)

John of Arderne (1392). John of Arderne (1307-1392) may have trained overseas, and had practiced with the military in Antwerp and in Spain (Talbot 1965, p. 112). He had returned to England by the time of the Black Death epidemic of 1348 (Talbot 1965, p. 112). He wrote a treatise on eye diseases, *De Cura Oculorum*, which did not mention cataract surgery (Talbot 1965, p. 111-2; James 2013, p. 41-46). The only eye conditions specified by Arderne were pannus (*panum*), which he viewed as synonymous with macula (*maculam*),

nonspecific terms for white spots on the eye, ulcer (*ulcera*), and eye inflammation (*lippitudo*) (James 2013, p. 42-45, 247; Schwartz 2014). All the eye treatments were essentially medical, though he did recommend phlebotomy from the forehead vein (James 2013, p. 46). The only personal experiences were mention of a man whose eye protruded onto his cheek after he was struck with a sword, but was successfully treated with a poultice (James 2013, p. 42). Also, Arderne mentioned that a lotion maintained his own eyes at the age of seventy, despite extensive studying and writing (James 2013, p. 45).

John of Scarborough (14th century). John of Scarborough, active at the end of the 14th century, was known for curing eye diseases, but he is described as a physician, rather than a surgeon (Talbot 1965, p. 181).

Peter Blank (1495). Peter Blank, a surgeon, had legal action taken against him for by a stationer named Simon Lynde in about 1495 for failing to adequately treat the diseased eye of a child (Talbot 1965, p. 246).

King James IV (1501). An April 10, 1501 entry in the Scottish royal account books that 14 schillings were “giffin to the blind wif[e] that had hir eyne schorne”. (Accounts 1500-04, p. 102) Some have taken this to indicate that King James IV of Scotland performed an ophthalmic procedure, but our analysis indicates that this payment could have been charity after a woman received an eye injury (Leffler “British Isles” 2021).

Balthasar Guercy (1519). Balthasar Guercy (d. 1557), of Italy, was trained in medicine on the continent, and arrived in England in about 1515 (Bennell ODNB). Guercy’s rival, surgeon Thomas Roos, defined surgery as including “..cuttyng of the sculle in due proporcyon to the pellicules of the brayne with instruments of iron, cowchyng of catharacts, takying owt bonys, sowying of the flesshe, launching of bocchis, cutting of apostumes...letting of blo[o]d, drawying of te[e]the...which restyth onely in manuall operation...” (Beck 1974, p. 170) Roos’ use of the term “cowchyng” to describe cataract surgery is the earliest surviving instance (to our knowledge).

Also, Guercy’s treatment of the eye of archbishop and royal advisor Cardinal Thomas Wolsey was mocked by poet John Skelton, who wrote that Wolsey was “Oppressed with the Neapolitan disease [syphilis], laid low under plaster poultices, pierced by the surgeon’s iron instrument [*Pharmacapoli ferro foratum*], relieved by nothing, nor made better by any medicine...” (Irish 2018; Skelton 1545, np)

Table 2. Probable Cataract Surgeons in England and Wales.

Decade	Surgeon (and estimated year of activity).
1560-99	J. Luke (61); T. Surflet (60s); W. Barnaby (64); V. Russwurin (73); R. Seabrooke (79); M. Lerret (88); H. Blackborne (94); Hanle (95); J. Nelson, Page (96); R. Surflet (99).
1600-39	J. Van Otten, N. Bowden (01); R. Hall, Velder, R. Banister (02); Charles (07); M. Jenkinson (08); B. Vanderlashe (12); J. Mathews, R. Bowne (15); J. Earle (17); J. Bonscio, Mr. Atwood (19); S. Duval (20); J. Stepkins, K.P. Springett (25); G. Williamson (33).
1640-79	D. Turberville (46); T. Woolhouse (52); Middleton, A. Atwood (53); Fayrfax (54); A. Earle (62); J. Russell (63); J. Sixton, G. Moretto (65); J. M. Philo (67); H. Le Begg (68); H. Weineck, G. Fairclough, C. Tilborg (75); J. T. Woolhouse (77); R. Bradford (78); J. Schultius, J. Newman (79).
1680-1719	R. Baker, W. Davis (81), R. Harness (81); J. Butler, J. Church, R. Chubb (82); T. Clark (83); W. Read (84); T. Ellis (88); W. Cowper (91); L. Gerard (94); G. Gerardts (95); A. Souburg de out Heussden, R. Gatlee (90); E. Green (95); M. Turberville (96); W. Rowght (97); J.A.K.; P. Maris, D. Irish, Cawood (00); P. Macqueen (02); J. Brinsden (03); R. Grant (04); W. Luly (09); A. Read (09); Rastrick (13); P. Kennedy (13); Mr. Bradley, John Bushel (14); Rigault (16); J. Smith (17).
1720-39	F. Appleby (20); R. Averit (21); J. Hodgkinson (22); W. Grant, W. Cheselden (24); S. Palmer (25), E. Green, Jr., R. Baty (25), T. March, R. Cosens (25); R. Rock, J. Freke, J. Taylor (26); R. Smith (27); Thomas Hope (28); T. Moore (30); S. Beaumont (30); B. Duddell, G. Filer, King, G. Goldwyer (31), F. Gunther (31), B. Gooch (31), H. Bracken (31); S. Sharp (33), W. Green (33), J. Ranby (34); Dr. Sare, W. Bromfield (35); P. Pott, J. Wall, Phillips (36).
1740-59	B. Huntsman (40); J. Warner, J. Paul (41), T. Gataker (42), J. Taylor, Jr. (43), R. Kay (44); J. Grant, W. Fabian (45); S. Mihles (46); E. Bromley (47); J. Hilmer (49); W. Stork (51); J. Hunter, J. Smith, C. Raynes, Mr. R. Phillips (54); L. Way (57); L. Sully, W. Stephens, E. Green III (58); Dr. Perrin (59).
1760-79	C. Bosenberg (60); J. Rouviere (62); G. Dove (64), Baron Wenzel, J. Wathen (64); L. Bello, C. A. Goergslenner (65); G. Benvenuti, O. Toscano (66); J. Lucas, H. Goldwyer, Dr. Mescrit, Dr. Sedra (67); J. B. Uytrecht, Dr. Jackson, W. Hey (68); J. Goldwyer, W. Goldwyer (69); Dr. Cooke, P. A. Miller, C. H. Eickhoff (70); C. Conti (72); Mr. Palermo, W. Rowley (73); E. Ford, Dr. Chalibert, J. White (74); G. Chandler, G. Borthwick (75); C. Krebs, Dr. Orsi, W. Staniforth, F.W. Jericho (76); J. Ware (77), Dr. Schedet, Tadini (78).
1780-99	Peter Degrauers (80); W. Butter (83); J. F. Pellier, J. Earle, R. Andrews, Jer. Taylor (84); A. Gray (88); E. Lewis, S. Pass (89); R. Reeve, W. Brodum (90), Daniel Mackinzie (90?); J. W. Phipps Waller, F. Bischoff (91); W. H. Goldwyer, Dr. Zacch, Mr. Johnson, J. Dunn (93); J. C. Saunders (95); E. Noble (97); H. Buxton, J. Krebs, W. Beer (99).

John Luke of London (1561). John Luke of London was licensed by the Royal College of Physicians to treat eye diseases in 1561.(Munk's Rolls online; Munk 1878 pp 63-64; Table 2) The College stipulated that he was restricted to using external medicines. No internal medicines or enemas could be used. No mention of surgery was made. The 1562 lectures of physician William Bullein noted: "Of Foenigreke is an excellent Fomentum made for the iyen [eyes], that be sore or dim: which I have seen mayster Luke make, which is an excellent man, in the cure or Regiment for the eyes." A footnote specifies "Maister Luke of London."(Bullein 1579, p. 26)

Banister grants Luke priority among English "Oculistes": "The first and cheifest was Luke of Erithe [in London] a man that lived in great fame and credit had the greatest practice and sums of money for he hath had from XX to LX L for Cataracke couchinge." If this attribution of priority is correct, then Luke probably was couching in the early

1560s. Luke made money from a “diet drink”, required patients to lie on their backs for 9 days postoperatively, and occasionally practiced in an itinerant fashion (James 2013, p. 53) It is not clear that Luke took any apprentices, as Banister remembered “all his knowledge was buried with him.” Luke “died at London at Mr Best’s house in ye stocks.”(James 2013, p. 54) It is thought that Luke might be the author of several anti-papist satirical tracts published about 1548 under the name Luke Shepherd (Munk’s Rolls online).

William from Kent. According to surgeon John Hall, a shoemaker from Kent named William said that he could cure “sore eyes”, “And that whereas maister Luke of London, hath a great name of curing eyes: he could do that which maister Luke could not do, nor turn his hand to.” The shoemaker bragged that he could do some type of eye surgery which Luke could not. Hall called Luke “that reverent man of known learning and experience”, and demonstrated that the shoemaker knew no eye anatomy (Lanfranc of Milan 1565, np).

Thomas Surflet (1560s). Thomas Surflet (1531-1611) was probably one of the earliest couchers after Luke. In his published treatise, Banister listed “Master Surflet of Lynne” as among his “most skilfull” advisors who were “all excelling in the operations.”(Banister 1622, np) But in his unpublished manuscript, Banister told a different story about “...Mr. Surphlete, a man of excellent Diet and crusty fashion of body. He lived till he was four score years of age, lived most in Norfolke, & died at Linn, and in good estate...I cannot commend this Mr. Surphlete for any extraordinary skill, though of long experience.” Skilfull or not, it seems Surflet was an important early ophthalmic teacher.

In 1559, one Thomas Surflet was granted a license to practice surgery by Cambridge University on the basis of many years of the study and practice of surgery (Cooke 1981). Between 1564 and 1577, a Thomas Surflet owned property in Peterborough (Cooke 1981). One historian implied that Surflet might have taught Banister’s advisor “Master Barnaby of Peter-Borough”. If so, then Surflet might have been performing couching by the early 1560s. Barnaby was probably a young man upon Surflet’s arrival. The marriage of William Barnaby at St. John’s Church in Peterborough in 1568 was followed by the birth of a number of Barnaby children over the next decade (ancestry.com marriage). When Barnaby was buried there in 1600, he was remembered as “a good Townsman”.(ancestry.com burial)

Surflet became a freeman in Lynn in 1579, and was required to treat the poor for free at the request of the mayor (Cooke 1981). Banister recorded that at Lynn, Surflet “lay 2 or 3 years at a barber’s house at Linn to whom he taught some skill, who now professeth it with weak Understanding and given to drink.”(James 2013, p. 54) We argue below that this barber was probably author Richard Seabrooke.

Robert Greve. In 1589, Robert Greve (or Greene) was listed as an apprentice to Surflet in Lynn (Cooke 1981). Greene was excommunicated in 1597 for practicing surgery without a license (Cook 1981).

Richard Surflet. A younger surgeon named Richard Surflet (c. 1560-1604) knew how to couch cataracts, and, because of the shared surname, is assumed to have learned from the elder Surflet (Cooke 1981). In 1599, Richard Surflet translated into English *A discourse of the preservation of the sight: of melancholike diseases: of rheumes, and of old age*, originally

written by André Du Laurens. In the preface, Surphlet wrote: “Which Surphlet famous for his art-taught cunning hand, In clearing the Eyes of spots, and noisome Catarrhacts...” and also “Surphlet...famous for thy art, In curing of blind catarrhacted eyes.”(Cooke 1981) In 1604, Richard Surphlet sailed for the East Indies as a ship’s physician and preacher, but he died on the return voyage (Cooke 1981).

Valentine Russwurin (1573). German surgeon Valentine Russwurin, of Schmalkalden (Harkness 2007, p. 63) had previously practiced at “Koningsburg in Prussia”, at “Hamburgh”, and at “Groninghen in west friseland” (Herle 1573). The earliest reference to Russwurin in London is thought to be the report of an “Allmaigne [German] surgeon” in the letter from August 29, 1573 of William Herle to William Cecil (Harkness 2007, p. 77). Herle called Russwurin “the new surgion opthalmist”.(Herle 1573)

Russwurin performed at least some treatments at patient’s houses, but he advertised his services from a market stall he set up outside London’s Royal Exchange (Harkness 2007, p. 11, 57). Russwurin “had restored one Jone Wynter a widow to her sight, who hath been blind these 8 years, & is of the age of 66 years...”(Herle 1573) The “Towne surgions” could only suggest that she “applye contrary plasters to her eyes”(Herle 1573). In contrast, Herle reported that in Russwurin’s hands, “...after some handling of her eye, what with instrument & otherwise, & then applying some juices & powder to the same, had made her to see in an instant well nye & to discern his face & chain of gold perfectly, with another color that was presented. But when the sight is thus restored, he accustoms to diet his patients & to keep them with plasters out of the air to confirm the tenderness of their sight for a month or 6 weeks after this cure: having now in cure at his own house within Bisshops gate street, on Ales Burton the wife of George Burton of Fullam who was blind, of the one eye 2 yeres, & of the other eye 3 weekes, & hath made her to see with that speed & facility which he did the other, but he entertains her in a dark parlor with plasters till the sight be confirmed against the air...”(Herle 1573)

Russwurin described himself as an “Opthalmiste”, and noted that “there were some causes & effect of blindness...that were utterly incurable.”(Herle 1573) He declared that upon examining a patient he could tell “whether she were to be helpen or no.”(Herle 1573) Russwurin determined if there were “obstructions of those sinews, called Nervi optici, or otherwise of too great a flux that passed by those Nervi optici, which were to be deciphered by proper colors belonging to the [cause] & disease; either white, green, yellow, or blue...”(Herle 1573)

Russwurin set up a stall at the Royal Exchange in London where he advertised his services (Harkness 2002, p. 146). He displayed bladder stones which he had removed, and provided testimonials from patients whom he had surgically treated for cataracts (Harkness 2007, p. 63).

Russwurin discussed the eyes of Cecil’s mother’s Jean (Harkness 2007, p. 273) in a letter to him (Harkness 2007, p. 273). Russwurin explained that two women he had couched still could not see, one because of vomiting, and the other because of exposure to light. In the letter, Russwurin also explained that he disagreed with the teaching that cataracts needed to be of long duration to be successfully couched (Leffler “British Isles”

2021). The letter is undated, but was probably written before May 1574, when Russwurin was run out of town (Harkness 2007, p. 269-70). Russwurin's letter of 1573 or 1574 about Cecil's mother is the earliest known use of the term cataract with reference to a specific English patient. It is not known if Russwurin ultimately treated Cecil's mother, but she was blind by December 1574 (Harkness 2007, p. 249). Russwurin's time in London peaked when he was made a "denizen" by Elizabeth in early 1574 (Harkness 2002, p. 145).

However, Russwurin's status rapidly spiraled downward. William Clowes, a member of the St. Bartholomew's hospital staff (Harkness 2007, p. 68) derided "Valentine Rarsworne, of Smalcalde, a stranger born" for claiming the titles "of Medicus Spagiricus, chirurgus, Lithotomus, and Ophthalmiste." (Clowes 1585, p. 8-9) With respect to his lithotomy practice, Russwurin was accused of fraud and poor outcomes. (Clowes 1585, pp. 9-13)

Russwurin also unsuccessfully treated an ophthalmic ailment in Andrew Castleton (d. 1617), a deacon at Cambridge, who ultimately was remembered as being blind (Venn 1922, p. 306).

"...he promised to cure one Maister Castleton, then being a scholar of Cambridge, of an impediment in his eyes, he had some sight thereof, that he was able to discern many things, when this Valentine Rasworne, took him in cure. But within a very short time after Valentine, by his rustical dealings, put out his eyes clean, and so deprived him of all his sight. And then when Maister Castleton perceived that Valentine could not perform his cure, but that he was by him thus spoiled, then he did arrest him, first for his money, the which he recovered again..." (Clowes 1585, p. 11-12)

Wynter, Burton, and Castleton might be the earliest identified patients to undergo couching in England.

After all of these clinical misadventures, a trial at Guild Hall (Clowes 1585, p. 13) was conducted in May of 1574 (Harkness 2002, p. 146). Seeing that a pillory was being erected for him, Russwurin absconded (Clowes 1585, p. 13).

Richard Seabrooke (1579). Richard Seabrooke (1548-1624)(findmypast.com) of King's Lynn wrote the earliest ophthalmic treatise by an English oculist. As noted above, Seabrooke is likely the Lynn barber mentioned by Banister, and was taught by Thomas Surflet about 1579. Seabrooke's age of about 30 years old upon Surflet's arrival in the town would be consistent with his writing (at the age of 72): "being from my youth by profession an Occulist..." Seabrooke shared patients with "M. Surfleet, a very skillful Occulist". Seabrooke doubted that therapeutic bleeding was effective, and implied that a nearby practitioner, likely Richard Banister, used it to excess (Leffler "British Isles" 2021). Banister retaliated by implying that Seabrooke was an alcoholic (Leffler "British Isles" 2021). Seabrooke did not totally get away from harsh treatments such as blistering, purging, and enemas, but he did not emphasize these.

Edmund Grindal (a patient, 1581). Edmund Grindal (c. 1519 – 1583), the Archbishop of Canterbury, had declining vision by 1581 (Collinson 2008) due to cataracts, according to later historians, and Queen Elizabeth I suggested that he resign (Stephen 1890, vol. 23, p.

264). Until the end of 1582, Grindal had some hope of recovering his vision: "...he had before entertained some hope of recovering his sight, as some others in like case had done..."(Strype 1821, p. 411) By the end of 1582, however, he accepted the permanence of his blindness. On his stone effigy at Croydon Minster, "his eyes have a kind of white in the pupil to denote his blindness" (Strype 1821, p. 430)

Marian Lerret (1588). In 1588, physician and astrologer Simon Forman witnessed a cataract surgery performed by Marian Lerret of France (Ashmole 403, f. 176v; Kassell 2007, p. 85). The procedure was unsuccessful, Forman explained, because the timing was not propitious (Kassell 2007, p. 85; Ashmole 1495, folio 501v; Kassell 2019). Lerret was still associated with Forman in 1600.

Philip Hislop (a patient, 1589). On Feb 5, 1588/9, Philip Hislop, one of the regents of the college at Edinburgh, was granted a license to travel to England because he was "visite[d] with ane mellady in his ane eye, to the apperant lose thairof, and is in howpe to be curet thairof in Londoun..."(Scottish Burgh Records 1882, p. 536)

Cesare Scacchi (1590). According to texts from Italy, Queen Elizabeth I summoned the surgeon Cesare Scacchi (b. 1555) of Preci to her court for 10 months on a medical errand, just before 1590 (Cruciani 1999, p. 194; Davidson 2016). However, this medical errand probably related to Francis Walsingham's urinary difficulties, rather than an ophthalmic procedure (Leffler "British Isles" 2021).

Henry Blackborne (1594). One dynamic ophthalmic teacher of the period was Henry Blackborne (d. 1611), probably born about 1573 in Halifax, Yorkshire. [The birth of Blackborne in 1573-4 in Halifax is assigned tentatively, assuming that Henry and his sister Agnes (also written Anne) were of the same father and baptized in the same parish.] His family might have moved to Kent. Banister painted a mixed picture of "Henry Blackburne who travelled continuously from one market town to another, who could couche ye Cataracke well, cure it, Lay a scar [cleft] Lipe, set a cro[o]ckt necke straight & help deafnesse."(James 2013, p. 54) On the other hand, Blackborne deceived patients by charging handsomely to treat incurable conditions.(James 2013, p. 54) Likewise, Blackborne himself was "often deceived of great sums of money but never robbed."(James 2013, p. 55) Because he was "lusty amorously given to several women", he frequently had to flee and change his name, and "was often imprisoned for women".(James 2013, p. 54) After couching a cataract, Blackborne placed a linen cloth dipped in beaten egg white over the eye, with instructions to change the dressing twice daily for 9 days.(James 2013, p. 54) He only returned for a postoperative visit if he heard that the patient had done well.(James 2013, p. 54)

Page. Blackborne taught an apothecary named Page, who never acquired much skill (James 2013, p. 55).

Hanle. The first surgeon Blackborne instructed in cataract couching was named Hanle (James 2013, p. 55). Hanle also practiced in an itinerant fashion, and conflicted with his teacher over who had the bigger practice (James 2013, p. 55). Hanle also operated on cataracts before they were ready, and was once beaten by an unsatisfied patient (James 2013, p. 55). If patients could not see after 9 days, they would demand their money back, so

Hanle moved along before the bandages came off the eye (James 2013, p. 55). Hanle had no academic understanding of disease, but “For couching of Cataracke he would do it excellent well.”(James 2013, p. 56) He treated eye inflammation or “Reumes” with a water containing white wine, rose water, and camphor.(James 2013, p. 56) Banister met Hanle when Hanle visited Sleaford and set up “his show” in the market, and only later did Banister meet Blackborne at York (James 2013, p. 56). Banister probably began practicing at Sleaford in the early 1600s, and given Banister’s depth of familiarity with both men, he probably met them early in his Sleaford period.

Nelson. Banister informs us that “Blackburne instructed one Nelson that married his sister. He could couche the Cataracke well but was given to drunkenness & so died beggarly.”(James 2013, p. 55) Blackborne’s sister married John Nelson of York, “Chirurgion” in Bishopsbourne, Kent in 1596 (Nelson findmypast). Blackborne had married into the Nelson family of York in 1594.(Blackborne findmypast) Nelson’s listing as a surgeon suggests that Blackborne had already begun teaching by 1596.

One “Blackborne” of Canterbury was granted a license to practice surgery on June 4, 1594.(James 1947) On August 17, 1605, Henry Blackborne was licensed to also cure eye diseases in Canterbury (James 1947; Wallis 1988, p. 56). On September 7, 1610, the mayor of Rye in Sussex provided a certificate for Henry Blackborne, “chirurgion and occulist” for curing the blind of Rye one year before: “by...his art and skill, did recover diverse persons...that were blinde, unto their sight again”.(Rye 1610) Blackborne treated a 74-year-old widow “darke and blinde” for 2 years, and the 65- and 75-year-old wives of two fishermen, one of whom had been “blinde” for 10 years.(Rye 1610) The lengthy duration speaks to the lack of availability of couching. All 3 patients "can see, and go about the town without any guide."

Blackborne described himself as an “Oculist” of Edgeware, Middlesex in his will, probated in 1611 (Blackborne will). Banister remembered that he “died in Kent”.(James 2013, p. 55)

Table 3. Probable Cataract Surgeons in Scotland (1595-).

Period.	Surgeons.
1560-99	M. Awin (‘95); Peter Lowe (‘98).
1600-39	Robert Archibald (‘27).
1640-79	Henry Hammilton (‘67); Johannes M. Philo (‘72).
1680-1719	John Stobo (‘80); John Sare (‘82); William Read, Cornelius Tilborg (‘84); Richard Reidman (‘86); John Balvaird (‘09); Francis Clerk (‘10); John A. Kerner (‘11).
1720-59	Robert Smith (‘22); Dr. Gunn (‘26); Edward Green, Jr. (‘28); John Taylor (‘29); George Lauder (‘34); George Cook (‘36); Alexander Rose (‘42); Thomas Hope (‘43); Thomas Young (‘56); Joseph Hilmer (‘58), Edward Green III (‘59).
1760-99	Philip A. Miller (‘71); Benjamin Bell (‘72); Lewis de Bello (‘74); John Aitken (‘78); Jean F. Pellier (‘87); Peter Degravars (‘88); John Thomson (‘89); John Latta (‘93).

Master Awin (1595). On August 1, 1595, in response to a complaint by local surgeons (Comrie 1927, p. 67, Andrews 1796, p. 71), a French surgeon, “Maister Awin [a] Parisian”, was fined by the town council of Edinburgh for practicing despite not belonging to the guild. The council ordered that he restrict his practice to: “the cutting of the stayne [lithotomy], the curing of that sort of rymbursin [hernia] quha hes their entrellis fallin in their bawcod [scrotum], the cataract or sluch of the eye, the pest and the diseases of wemin resultand upon their birth”(Dingwall 2008, p. 197)

Peter Lowe (1598). Surgeon Peter Lowe (c. 1550-1610) was probably born in the west of Scotland (Dingwall 2004). In about 1566, he traveled to France, where he received medical training, served the royal household, and practiced in Paris (Dingwall 2004). He left France about 1596, and was probably in London in 1597 (Dingwall 2004). By early 1598, he was living in Glasgow (Dingwall 2004).

Lowe had some familiarity with cataract surgery from his time in France. He signed the first edition of his surgical treatise in London in 1597. The text was prefaced by praise by surgeons William Clowes and George Baker (Lowe 1597, np). Lowe had responded to one of his French professors: “...in blindness[s], the sight is abolished, diminished as suffocation as happeneth in the beginning of Catarack...”(Lowe 1597, np) Lowe also noted that one used “...in the eye, an instrume[n]t called speculu[m] oculi, a needle proper to abate the Cataract”(Lowe 1597, np) This first edition of his treatise did not have a chapter explicitly discussing cataract surgery.

Lowe died in 1610, but the second edition of his surgical treatise was printed in 1612 (Dingwall 2004). This second edition does have detailed chapters on cataract diagnosis and surgery, and uses the term “couching” to describe procedures which he performed. Lowe had a figure of a cataract needle which could be hidden in a protective metal covering (Lowe 1612, p. 170). During the procedure, one would turn the needle “...until such time as you couch it to the lowest point of the eye...”(Lowe 1612, p. 171) He noted that in English the terms “cataract” and “tey” were synonymous (Lowe 1612, p. 167). Lowe discussed the treatment of cataracts in several patients:

“The one of a seruant of my Lord of Laudum, who had a Cataract fiue years on both hir Eyes, which when I did see, I caused hir to stay one yeare there longer till it became more ripe, then I did couch them both and restored hir to hir sight. Likewise a Seruitour of the Lord of Craiggie Wallase, who had a Tay on his Eyes the space of nine months or thereabouts, which was sufficientlie ripe, so I did couch it, and restored him in like manner to his sight.”(Lowe 1612, p. 167)

Richard Napier (1600). Physician and astrologer Richard Napier (1559-1634) recorded the cataract couchings of several patients whose surgeon is unknown. In 1600, Napier referred to William Burnet of Great Horwood having a “cataract of w[hi]ch he was twice cut” (Kassell Case 11234). On July 7 1622, Napier asked whether in Goodman Robert Richardson of Newport, Wales, “the Dutchma[n] will recoav[e]r his...eye sight” (Kassell CASE54568). In that era, “Dutchman” referred to someone from Germany or Holland. Bartholomew Vanderlashe of Germany was indeed couching cataracts in that era. By July 22, 1622, the surgery had been performed: “Richardson...had his eyes opened.”(Kassell CASE 54656). Nonetheless, in 1629, Richardson was described as “blynd 7 y[ears]

extremely tormented in his left ey[e] w[hi]ch was good for a long tyme & now is tormented” (Kassell CASE69361). Napier recorded on June 3, 1625 that Nicholas Ridley of Weston, age 74 years, was “cut of on Cataract & doth see by a skilfull oculist”(Kassell Case60589).

James Van Otten (c. 1601). James Van Otten (1568-1622) of Ypres, Belgium,(DuRieu 1875, pp. 34-35) was born in 1568 (ODNB Willughby; Clark 1887, p. 406). Although he went by the first name James in England, he was identified on formal documents as “Jacobus”.(Du Rieu 1875, pp. 34-35; Young 1890, pp. 324-5) He received a medical degree from Leiden University in 1593 (Du Rieu 1875, pp. 34-35). He was present in England by 1601, and began training apprentices. Some time about 1601, he trained Richard Banister.

Nicholas Bowden. Nicholas Bowden (1576-1649), another Van Otten apprentice, was born in Loughborough in Leicestershire (Bowden findmypast). In 1601, Van Otten and Bowden were jointly permitted by the Company of Barber-Surgeons to practice in London “only for the couchinge of the catarack, cutting for the rupture [hernia], stone, and wenne [boil].”(Young pp. 324-5) Moreover, “Bowlden shall be assistant unto the said James Vanotten”. (Young pp. 324-5) In return, the surgeons were required to pay a fee to the Company which would be used for the poor. (Young pp. 324-5) They could hang an advertising banner at their lodging, but nowhere else. (Young pp. 324-5)

In 1602, Bowden was licensed by the University of Cambridge to practice surgery (Venn 1922, p. 189). By about 1605, Bowden advertised as a “Chirurgion, cutter of the stone, and also Occulest, curer of the Ruptures [hernias] without cutting...”(Bowden 1605) Bowden also treated “All hare or cleft lippes”.(Bowden 1605) With respect to vision, he promised: “All Rumes, pearles, blemishes, or Catteracts curable, although they have been long blind, they shall in short time receive sight.”(Bowden 1605) In 1614, "Nicholas Booden" was "certified fit by the professor" and licensed to practice surgery by Oxford University (Clark 1887, p. 124) In July of 1648, Bowden gave a manuscript on alchemy to antiquarian Elias Ashmole, who later donated it to the University of Oxford (Black 1845, p. 1259). Bowden, described as “Master Of Chirurgiens”, was buried in Reading on December 24, 1649 (Bowden findmypast).

Mr. Charles. In November 1607, van Otten recommended the otherwise unknown Mr. Charles to couch a cataract, according to the records of physician Richard Napier:

“Mr Van Otten commendeth Mr Charles for the couching of Goody Reeves cataract novemb. 17”(Kassell Note4017)

One Richard Charles was licensed as a doctor (but not a surgeon) in London in 1615 (Wallis 1988, p. 109).

In May 1620, when Van Otten was licensed to practice surgery by the University of Oxford, he was hailed as "A very learned expert chirurgian well practiced in the faculty these thirty years in his own country, this, and other kingdoms."(Clark 1887, p. 124) He was matriculated as a privileged person at Oxford on April 6, 1621.(Clark 1887, p. 406)

Percivall Willughby. In 1619, Van Otten took an apprentice named Percivall Willughby, in return for receiving £100 for seven years (ODNB Willughby). However, Van Otten died

in 1622. Under the heading: "On the death of Mr. James Van Otten an expert Chirurgion, who dyed att Oxford: March: 1. 1622"(Rosenbach) poet William Strode remembered: "Death now growes politique:/ While Otton liv'd herselfe was weake and sicke/ For want of food, therefore at him she aimde...Behold Death's triumph and our fatall losse."(Strode 1907, pp. 85-6)

Richard Banister (c. 1602). In 1622, Richard Banister (c. 1570-1626) wrote an ophthalmic treatise, which is known for being the first in the Western medical tradition to note the poor prognosis of couching the palpably hard eye.

He spent 5 or 6 years studying under his uncle, surgeon and anatomist John Banister (1533-1610) (James 2013, p. 57). Although his uncle was interested in ophthalmology, this training was of a general nature (Banister 1578, p. 103-4; Wecker 1585, preface; Leffler OoJ; Clowes 1588, np; Leffler "British Isles" 2021; Banister 1622, deducation).

Banister recounted that "I spent a little tyme (with) one James of Utricke in ye Lowe C[o]untryes."(James 2013, p. 57) Given that James van Otten of Utrecht was in England training apprentices who subsequently couched cataracts, van Otten would seem to be Banister's mentor. Banister then spent 14 years practicing at Sleaforde (James 2013, p. 57). Given that he was licensed to practice surgery in Sleaford in 1602 (James 1934, p. 156; Wallis 1988, p. 29), his training with van Otten would probably been around 1601. Richard Banister decided to specialize in order to perfect his practice (Banister 1622, np). He was interested in eyesight after "finding some defects in mine owne eyes" (Banister 1622). He also performed "helpe of Hearing by the instrument, the cure of the Hare-lip, and the wry Necke. When in the threshold of my practice, I could couch the Cataract, and so began to gaine some name of an Oculist" (Banister 1622).

Banister believed that "Old men see better with spectacles then young men" (Banister 1622, np). Banister wrote that "A golden needle is better for the Eyes, then a silver needle."(Banister 1622, p. 39) However, his will left to his son "my box of silver instruments".(James 2013, p. 61) Banister recommended pterygium excision: "Webs upon Conjunctiva that spread over Cornea, are cut with good successe and helpe, if by a good Artist."(Banister 1622, p. 55). Banister noted a number of problems which could occur with couching: release of a milky substance which appeared to have been contained in a "blather", i.e. a bladder—the lens capsule (Banister 1622, p. 56). One could also experience hyphema, apparent subluxation of the cataract into the anterior chamber obscuring the uvea (iris), cataracts that were too soft to be displaced, movement of the cataract back into the visual axis due to hardness of the cataract, and adherence of the cataract to the uvea (iris) (Banister 1622, pp. 55-57). He used the term "couched". He described couching the cataract of a woman "in Walsingham in Norfolke" which was adherent to the uvea, and required parting "many small threds, or rather haires" (synechiolysis). In the early postoperative period, she could not see well, but after some time, the vision improved, and his local reputation improved (Banister 1622, p. 58) Unlike the "mountebankes", Banister insisted that "by couching of Cataracts, our English Oculists have alwayes had an especiall care, according to Arts, to couch them within doores, out of the open aire, to prevent further danger."(Banister 1622, p. 66) Banister criticized the clinical outcomes of "strangers" (foreigners) who drew teeth while "on horsebacke". The brother of one of these came to

Lynn, and also claimed to cure the blind, and “cut for the Stone and Rupture”.(Banister 1622, p. 71)

Oculists could not guarantee good outcomes in all cases. In 1614, physician Richard Napier recorded: “Mr Banyster did take away a cataract fro[m] mres Mo[nt]Gu[m]bry & anoth[e]r of Sherington & neyther doe see but a glymmering may 11.” In 1616, Napier recorded:

“Mr Banyster of Sta[m]pfordshere the Oculist ca[n] helpe boath the blynd & deafe mr Banysters brother of Bedford 30 myles fro[m] linford a ma[n] of great experienc[e]. & hath helpen manye al over spring & fall he goeth to london at other tymes men may have him at home.”(Kassell NOTE6019)

Banister reported curing of blindness, presumably by couching, 24 people in Norwich in 1609, and more in 1611, as certified by the mayor. Given the book’s dedication in June 1621, it seems he visited London in the Spring and Fall, with successful treatments there in 1606, 1611, 1614, 1617, and 1619. Moreover, the mayor, William Cockaine, certified over 20 such cures in 1621. Banister received similar certificates for the cure of over 12 blind people in “Lincolne”, and 8 or 9 in “Saint Edmund’s berry”. Banister noted that in one month in a distant city he could see more blind patients than in six months in his own town (Banister 1622, pp. 82-89).

Banister named two patients. One was “The Lady Parker at Doctor Wamslies house at Snowhill” who was 83-years-old and had been blind in one eye for 40 years. He successfully couched her in 1621 (Banister 1622, p. 94). Also, there was an old man named “Old Bucke” at “old Debum in Suffolke” who was successfully couched in both eyes. Banister believed that performing a unilateral couching would prevent a cataract from developing in the other eye (Banister 1622, p. 95-6).

Robert Hall of Worcester. In his book, Banister recalled that he had sought the advice of other oculists: “Henry Blackborne,...Robert Hall of Worcester, Master Velder of Fennie-Stanton, Master [Thomas] Surflet of Lynne, and Master [William] Barnabie of Peter-Borough” (Banister 1622, p. 14). Robert Hall of Worcester was married in 1588. One Robert Hall received a license to practice surgery in Worcester in 1612 (Wallis 1988, p. 256).

Earle in Staffordshire. Banister also mentioned another eye surgeon: “one Earle in Staffordshire a good artiste”(James 2013, p. 54). John Earle of Staffordshire was buried in 1617 (Earle).

Bartholomew Vanderlashe (1612). Bartholomew Vanderlashe (fl. 1612-1640) was a surgeon from Lippe, Saxony, who performed lithotomy, surgery for hernia, cataract and “wry neck” (Pelling 2006, p. 88).

On November 3, 1612, the Company of Barber Surgeons of London gave permission to “Bartholomew Vanderlatch a stranger to take in hand one Melser Gisberd whoe had an ympedym[en]t in his eye”.(Young 1890, p. 331)

In Leicester, Richard Banister (d. 1626) was rebuked by town officials for defacing the handbills of Vanderlashe (Pelling 2006, p. 108).

Vanderlashe might be the “Dutchman” who unsuccessfully attempted to “open” the eye of a man from Newport, Wales, in 1622, as recorded by physician and astrologer Richard Napier.

On November 9, 1628, “Bartholomew Vanderlashe, a German professing Surgery” gave a cup and cover to the Company of Barber Surgeons (Young 1890, p. 494).

Vanderlashe was active until at least 1640, when he was described as wealthy (Pelling 2006, p. 88).

Sir Thomas Browne of Norwich wrote in 1679: “I sawe a woeman of 80 yeares, while the cataract was couched in both eyes, and shee had a dimme sight for a yeare after, till shee dyed; it was done by Vanderlas.”(Browne 1836, vol. 1, p. 245)

Of note, a surgeon named Andrew van der Lasse was licensed in London as a surgeon in 1637 (Wallis 1988, p. 613);

Richard Carew (patient, 1615). Richard Carew of Cornwall (1555-1620) was a translator and antiquary who began to go blind in his late 50s (Mendyk 2004). By 1612, others had to read print to him, and he was “quite blind” by 1613 (Halliday 1967, p. 82). His son, of the same name, remembered: “When my father was blind, he made a little treatise to persuade others thus afflicted to suffer that great loss of one of our most precious senses at least with patience and equanimity, if they could not reach so far as to do it with true thankfulness.”(Halliday 1967, p.82) The son had traveled to Poland and to Orléans, France, as a young adult, and had experimented with different medical therapies (Holdford-Stevens 2004). The son recalled these events using the newer language (“cataract”), and at first tried veronica juice because “I have heard that it hath cured the cataract...”(Halliday 1967, p. 83) The son then persuaded his father to undergo surgery:

“...He [God] made that man’s hand to help him, who failed in his endeavour in the same kind for many others whom he could not cure, and gave my father his sight perfect, with the help of his block spectacles, in that eye first that he which undertook it, when he was doing of it even despaired to perform; and when he had done all, left him blind in that eye which he was very confident to cure. Yet after, without any further help of the oculist, God restored the sight thereof also, and continued it unto him about five years [from 1615 onward], even as long as he lived. And the first thing he spake of unto us after the removal of his cataracts was: ‘None of you knows how great a blessing God gives us by light and sight, but I who had now almost forgotten it by wanting of it continually two years together, when He removed my film the light appeared suddenly with such a glory...’”(Halliday 1967, p. 83-84)

This bilateral cataract surgery, apparently in about 1615, is the earliest reference to the use of spectacles after cataract surgery that we know of in England.

John Mathews (1615). On January 9, 1615, John Mathews, “an oculist” sued to be admitted to the Company of Barbers and Surgeons of London. He was admitted provided that he provide their house with “a great be[e]are bowle” (Young 1890, p. 272)

Robert Bowne (1615). In 1615, Robert Bowne, an oculist, was charged with giving internal medicine for the eye complaints of a girl who had to be nursed back to health by the wife of Dr. Thomas Moundeford (Pellings “Bowne”). Bowne was threatened with imprisonment if he did not pay a fine of 50 shillings within 14 days, but he paid the fine (Pellings “Bowne”).

John Bonscio (1619). John Bonscio, an oculist from Ferrara, Italy, passed out pamphlets advertising his practice in London in 1619 (Pelling “Bonscio”). He was examined in Italian by Dr. Simeon Fox, who had trained in Italy. Fox determined that Bonscio did not understand eye anatomy. However, as his medicines did no harm, his practice would be tolerated by the College of Physicians of London. Bonscio was sued in 1620 when an eye treatment failed to work within 6 weeks.(Pelling “Bonscio”).

Atwood (1619). Atwood of Worcester was the patriarch of a family of 5 generations of oculists, by the names of Stepkins, Woolhouse, and Beaumont (Leffler “Woolhouse” 2017). As noted above, Richard Napier recorded in 1619: “Atwood of Worcester a gentlem[n] of 500 ll [libra] the ye[a]re & the best Co [sic] Oculist in England comēded by Mr Van Otten” (Kassell “note6952”) One “Atwood of Worcestershire” taught his son-in-law John Stepkins to be an oculist in the mid-1620s (Leffler “Stepkins”; see Figure below).

Anthony Atwood (1653). Walter Powell (1603-1654) of Wales recorded in his diary:

“1653...May 21, my eye was cooched by Anthony Atwood very fairly but yet failed to be a cure because it was spoiled before & then appeared a new cateract to begin to grow in my left eye.” (Powell 1907, p. 45).

Anthony Atwood could also be the Mr. Atwood, “an oculist of good fame” who in 1655 treated a patient from Derbyshire named Mr. Alsop (Leffler “Woolhouse” 2017). As there was an Atwood oculist in Wolverly parish who taught family members, active by 1619, and another Atwood oculist in Worcester in 1711, we might look to this region as the home of Anthony Atwood. As this region is central to the locations (Derbyshire and Wales) of the patients of Anthony Atwood, it is reasonable to look in Worcestershire as his home (Leffler “Woolhouse” 2017). There was an Anthony Atwood, son of John Atwood, born in 1630 in the Parish of Wolverley (Robinson 1903, p. 109).

Simon Duval (1620). Simon Duval (or du Vall, died c. 1637) was a “doctor of physick” attached to the household of the French ambassador in London by 1620, and was still practicing there in 1634. He specialized in eye diseases, and indicated that he had been practicing since about 1616. His will of 1634 was probated in 1637 (Pelling 2006, p. 161).

John Ponteus (1624). John Ponteus helped to inaugurate a grander scale of stage performance by mountebanks in England. Although the contemporaneous written record only suggests that he performed medical remedies, his license as a surgeon, and the fact that prominent cataract surgeons such as William Read and John Church called him their

teacher indicates that Ponteus at least served as an inspiration for subsequent surgeons, and perhaps even performed procedures which have gone unrecorded.

John Ponteus was recorded variously as being either Italian, French, or German (Katritzky 2007, p. 97). More of the contemporary sources suggest that he was “the Italian Pontaeus” (Harris 1683, p. 321). He later stated that he was in practice by about 1616, and had arrived in England in 1624 (Ponteus 1656, p. 1). He had performed public demonstrations in London in 1629, 1630, and 1631 (Ponteus 1656, p. 1). Other sources note that he was in London in 1630 with a 10-person stage troupe, and was licensed “to exercise the quality of playing, for a year, and to sell his drugs” (Katritzky 2007, p. 97). Ponteus was described by physician Walter Harris in 1683 as “Pontaeus, the first Mountebank that ever appeared on a Stage in England” (Harris 1683, p. 319).

He practiced in Edinburgh in 1633, 1643, and late 1662, early 1663 (Thin 1938, p. 134; Lamont 1830, p. 158). He also visited Stirling, Glasgow, Aberdeen, Perth and St. Andrews in Scotland (Thin 1938, p. 134; Lamont 1830, p. 158).

In November 1643, John Spalding of Aberdeen, Scotland, recorded: "In this moneth of November, their cam to Abirdene ane Doctor Pont[ius], who had sum[e] stage playis, quhilk drew the people to behold the sport; syne, upone the stage sold certain balmes, oyllis, and uther phisicall oyntments, quhairof he maid gryte gane. Thairefter he went north to uther buurrowis and did the like." (Spalding 1829, vol. 2, p. 169)

On November 16, 1649, according to Anthony Wood (1632-1695), who chronicled the annals of Oxford University, “The famous mountebank of his time called Joh. Puntaeus an Italian, and a famous physician, who, for many years before this, had exercised his art in several places within this kingdom, had license given to him to practise chirurgery throughout all England, Nov. 16” (Wood 1820, vol. 4, II, p. 122). Another source recorded the 1649 event at Oxford as “John Ponteus, an Italian Chymist, had now a License granted him to practice Chirurgery throughout all England” (Cox 1738, p. 324).

The following episode was related some years later, but as it relates to Oxford University, it may also have occurred when he was licensed at Oxford in 1649. Walter Harris (1647-1732) heard that Ponteus “made a Challenge to the Physicians at Oxford, to prepare for one of his Servants, the Rankest Poyson that they could contrive, and he should venture to take it before them all, publickly upon his Stage” (Harris 1683, p. 319). According to Harris, the servant survived the poison by eating several pounds of butter in advance to coat his stomach, and then after collapsing on stage and being removed from site, vomiting up the poison (Harris 1683, pp. 319-20). Although Matthews in 1964 claimed that the antidote which was claimed to have saved the servant’s life was Orvietan, our reading of Harris’ 1683 text is that Ponteus remedy was simply stated to be “his Masters Antidote”, and it was a different German mountebank who was recently (in 1683) in Covent Garden displaying Orvietan (Harris 1683, p. 321) (possibly Cornelius Tilborgh).

Ponteus’ pamphlet of 1656, written in London, noted that he had demonstrated “The Oyntments for Burnings and Scaldings, as it was tryed upon Smithfield place, Octob. 17. 1651.” (Ponteus 1656, p. 3) Harris heard from a friend of Ponteus that he would have an assistant howl in pain when what looked like molten lead was poured over his hands, only

to be miraculously healed by an ointment. The secret was that the apparent lead was really “Quick-silver” (mercury) (Harris 1683, pp. 322-324)

In his 1656 pamphlet, he called himself “John Punteus, a Chymical Physician”, and described his “Excellent Remedy for Sore Eyes”, which was an ointment which contained plantain water and egg white (Ponteus 1656, pp. 2-6).

In August 1661, while in London, John Evelyn (1620-1706) recorded in his diary “...we went to that famous Mountebank, Jo. Punteus ” (Evelyn 1900, p. 245).

In 1662, Ponteus published a book in London in which he described himself as “Mr. John Ponteus”, and promised “rare receipts; both of physick and of chyrurgery” (Ponteus 1662). He recommended “eyebright-water” to be used “for sore eyes” and “Marigold-water” to be used for “Rhume in the Eyes” (Ponteus 1662, np). Also, “Licorice blown through a quill into the eyes” would treat “a Pin and Web in the Eye”(Ponteus 1662, np) Though the title hinted at surgery, there was nothing related to eye surgery in the book.

In December 1662, John Lamont of Newton (Scotland) recorded a visit of Ponteus:

“Each tyme he had his peopell that played on the scaffold, ane ay playing the foole, and ane other by leaping and dancing on the rope, etc...” (Lamont 1830, p. 158-9)

In 1663, the town council of Edinburgh granted “libertie to Jon Pontus, professor of Physick, to build a stage...” (Thin 1938, p. 135) Surgeons and apothecaries travelled great distances to purchase his medications (Thin 1938, p. 135). On the stage, the troupe performed comedies (Thin 1938, p. 135). Nicoll’s diary also records that Ponteus had dancers: “upon a single tow or rop, when the actor danced seven scour (score) tymes at ane tyme without intermission lifting himself and volting six quarters high above his ain heid, and lichting down upon the tow as punctuallie as gif he had been dancing upon the plane stanes.”(Thin 1938, p. 135) Nicoll also recorded sliding on the rope: “a tow affixt from the South side of the Hie Street in Edinburgh to the North side of the street quairon the dancer descended upon his breast, his hands low and streatched out lyke the winges of a fowel.”(Thin 1938, p. 135).

After 1663, we have no evidence that Ponteus continued to practice. In April 1665, a parish register in Covent Garden during the plague epidemic recorded “Margarit Daughter of Dr. John Ponteus Buried Church, plague.”(Moote 2006, p. 52) Wood wrote that “after his maj[esty’s] restoration [in 1660] he [Ponteus] lived at Salisbury, and died rich and full of years” (Wood 1820, vol. 4, II, p. 122).

By 1669, “the stage whereupon Dr. Ponteus and his servants use to be” in London had been claimed by “Chirurgion” Tamberlaine Harvey, but then the stage was dismantled by rebellious “apprentices and servants” (Garrard 1852, p. 229).

In 1676, a medical pamphlet from London contained “receipts” which had been “gathered out of the library of that famous traveler Dr. Ponteus” (Ponteus 1676). We might imagine that his library had passed into the hands of one of his medical understudies. The title page has an illustration of “Dr. John Ponteus”. Again, we are only given medical

remedies “For sore and blood shot eyes, or Rhume, hot or cold”; “a water to clear the sight” and “for a Pearl and Flegm that grows over the Eyes.”(Ponteus 1676, pp. 2-3)

Physician Walter Harris wrote in 1683 that Ponteus had previously confided the methods of his mountebank displays to a friend because Ponteus was “Antient, and uncapable of going on with his Old Trade” (Harris 1683, pp. 324-5). As Harris wrote “I shall revive the Memory of our Famous Pontaeus” (Harris 1683, p. 318), we might even guess that Ponteus was dead by 1683.

As noted above, cataract surgeons William Read and John Church later claimed to have been taught by Ponteus. In fact, Church wrote in 1682 that he had spent time with “that famous phisitian and chirurgeon John Ponteus” (Church 1682, title page). Therefore, Ponteus certainly inspired subsequent eye surgeons, and may have in fact performed surgery.

John Stepkins (1625). John Stepkins (c. 1600-1652) was an eminent oculist who in 1625 married the daughter of, and presumably learned from, the oculist Atwood of Worcester (Leffler “Woolhouse” 2017). Stepkins is the earliest surgeon we can find in Europe who performed congenital cataract surgery (following the medieval Arabic period) (Leffler “Woolhouse” 2017; Leffler “Stepkins” 2014; see Figure below).

Theodosia Stepkins (Lady Ivy). Theodosia Stepkins (1628-1695), the daughter of John, was well-known as an oculist (Leffler “Woolhouse” 2017). There is no definite evidence to establish that she performed couching. She may have learned ophthalmology from her father, who died in 1652, and she definitely was known as an oculist by 1659 (Leffler “Stepkins” 2014). In 1682, she was still “commended both far and near for her great pittty and Charity”(Leffler “Stepkins” 2014; see Figure below).

Katherine Partridge Springett (c. 1625). Lady Katherine Partridge Springett (1599-1647) of Kent was known to be “rare in taking off cataracts and spots in eyes”, and was referred patients by John Stepkins (Leffler “Stepkins” 2014).

Robert Archibald (1627). In 1627, Robert Archibald of Glasgow was admitted a freeman “in the calling of chirurgerie & in particular in the Incision of the Stone, Cataract, hernia...”(Hill 1860, p. 37) Archibald continued to be mentioned in the Faculty Minute Books through 1641 (Hill 1860, pp. 37-155).

Alexander Read (1632). When surgeon Alexander Read (1586-1641) lectured at “Chirurgeans Hall” in London from 1632-4, he reviewed “the couching of a cataract” and “the most exquisite manner of couching of such as are curable” (Read 1635, p. 11-2). Read noted in 1638 of the aqueous humor that “...in man may be let out (as we see in the couching of a cataract) without any great hurt to the sight. In a chicken if it be let out by pricking, it will bee repaired in fifteene daies.”(Read 1638, p. 441-2)

George Williamson (1633). George Williamson married into the Stepkins family in 1633 (Leffler “Woolhouse” 2017). He presumably studied with his brother-in-law, oculist John Stepkins, and performed an unsuccessful couching in 1663 (Leffler “Woolhouse” 2017; see Figure below).

Joseph Binns (1637). Joseph Binns (d. 1664) performed his apprenticeship with Joseph Fenton, and was made free of the Company of Barber Surgeons in 1637 (Beier 1992, p. 49). Binns was a surgeon at St. Bartholomew's Hospital from 1647 until his death (Beier 1992, p. 49). His casebooks describe 671 patients, and do not mention cataract couching, though he did treat 3 corneal ulcers, one with blistering, purging, cupping, and medicines dropped in the eye (Beier 1992, p. 72).

Daubeney Turberville (1642). Both in his day and since, Daubeney Turberville (c. 1612-1696) of Wayford has been hailed as the most reputable oculist of the period. Surprisingly, historians have not seriously examined where and when he might have learned eye surgery.

When he died, his friend Pope wrote "Dr. Turberville was born at Wayford, in Somerset-shire, Anno. Dom 1612" (Pope 1697, p. 99). Pope also wrote "He died April 21st. 1696, in the 85th. Year of his Age" (Pope 1697, p. 109). However, Oxford recorded "Turberville, Daubeney, s[on of] George, of Wayford, Somerset, gent[leman] Oriel Coll[ege], matric[ulation] 7 Nov., 1634, aged 19; B.A. 15 Oct., 1635; M.A. 17 July, 1640; D. Med. 7 Aug., 1660" (Foster 1891, vol. IV, p. 1517). This record suggests that he was born about 1615.

Historians of Oxford have reviewed his affiliation with that university (Gunter 1937, p. 111). Turberville matriculated at Oriel College in 1634, received his BA in 1635 and his MA in 1640 (Kaplan 2004). However, during Turberville's time at Oxford, long after the active period of James van Otten and Nicholas Bowden, it is by no means clear that anyone at the university knew how to perform couching.

During the English Civil Wars, which erupted in 1642, he helped the royalist forces, and his involvement seemed to extend beyond a medical role. Pope wrote: "During the Civil Wars, he bore Arms for the King. After the Surrender of Exeter, he liv[e]d at Wayford, and Crookhorn".(Pope 1697, p. 109) One historian remembered him as "a Royalist who went off to fight for his King, until Exeter surrendered to Fairfax in April 1646, when he took to practising medicine at Wayford."(Gunter 1937, vol. XI, p. 111)

Turberville very well might be the oculist who functioned as a royalist spy delivering messages for Lord George Digby (1612 – 1677), the second Earl of Bristol. On January 19, 1645/6, the Archbishop of York wrote an encrypted letter to Lord Digby which recorded:

"When my letter was thus farre, your chirurgion or oculist...brought me the letter to the Bishop of Lichfield which I did save and have sent yours to the King by another road...The oculist did not return speedily from the King...General Gerard is at Oxford, and Rupert, in great enmity with Digby. The oculist does likewise lay much blame on the same Lord, because of Glamorgan his business, and has put us all here to desperation. If you can, hold it fit for the use of the King, save your servant."
(Hamilton 1897, p. 690)

Digby had attended Oxford from 1626 to 1636 (Hutton 2009), and therefore could have known Turberville from their time at the university. It cannot be proven that the royalist

oculist spy was Turberville, but it seems likely given the Oxford connection, and the fact that we can find no other oculist candidate.

With the victory of Parliamentary forces, Turberville was disconnected from the powerful elite, and was relegated to be a provincial oculist. In 1646, he began practicing medicine in Wayford, and nearby Crookhorn (Crewkerne). In 1659, an oculist from Crewkerne was paid 3 pounds by the town of Dorchester to perform cataract surgeries on an elderly couple from that town (Underdown 1992, p. 223). The oculist was almost certainly Turberville, who is known to have been working as an eye specialist in Crewkerne in the 1650s (Baggs 1978, pp. 4-38).

With the restoration of the monarchy in 1660, Turberville was now on the winning side, and became the oculist to the elite and powerful. Historians of Oxford have implied that receiving his MD degree at Oxford in 1660 allowed him to treat eye diseases. For instance, one wrote “He took his D.M. in 1660 and soon acquired a great reputation in cases of diseases of the eye” (Gunter 1937, vol. XI, p. 111). In fact, as we have seen, Turberville was already well-known as an oculist before 1660. Wood recorded that on August 7, “Daubigney Tarbervill of Oriel Coll.” received the “Doct. of Phys.” degree from Oxford, “by vertue of the Chancellours Letters” (Wood 1691-1692, vol. 2, p. 811). The letters of others receiving degrees at the same time reflect service to the king during the war. Thus, it seems the MD degree was sort of an honorary degree bestowed on him upon the Restoration of the monarchy to reward him for his loyalty during the war, and did not involve any actual medical training at Oxford.

On June 22, 1668, Robert Boyle told Samuel Pepys to see Turberville about his eyes, as Turberville was visiting London (Pepys 1887, p. 330). Pepys visited Turberville twice over the next week, and was given a medicine to drop in his eyes as well as pills (Pepys 1887, pp. 331-6).

On July 3, 1668, Pepys met at an alehouse with “Mr. [James] Pierce, the surgeon, and Dr. Clerke, Waldron, Turberville, my physician for the eyes, and Lowre [Richard Lower], to dissect several eyes of sheep and oxen, with great pleasure, and to my great information. But strange that this Turberville should be so great a man, and yet, to this day, had seen no eyes dissected, or but once, but desired this Dr. Lowre go give him the opportunity to see him dissect some.” (Pepys 1887, p. 335)

Richard Lower (d. 1690) earned a Bachelor of Physic at Oxford 1665 (Pepys p. 335). It is interesting that he would perform his anatomic dissections at an alehouse. The previous January 1667/8, Lower had published a paper on a blemish on the “uvea” of horses, which might be an iris lesion (Lower 1668/9). James Pierce was the surgeon to Charles II and the Duke of York (Young 1890, p. 92).

Queen Anne (1665-1714) had been taken to see a French oculist at age 4 due to a constant “defluxion” of her eyes. Turberville’s friend Walter Pope claimed in a glowing obituary that Turberville, at the request of the Duchess of York, successfully treated “the Princess of Denmark [later Queen Anne], then a Child, laboring under a dangerous Inflammation in her Eyes, and a breaking out in her Face, the Cure of which had been attempted in vain by the Court Fysicians” (Pope 1697, p. 101).

One referral source for Turberville came from as far away as Norwich. Sir Thomas Browne of that town wrote in 1680: “Dr. Tuberville hath been a noted oculist a long time, and I have recommended some persons unto him.”(Browne 1836, vol. 1, p. 294-5) In fact, we know the names of several patients Browne saw who needed cataract surgery. The Norwich town records indicated on “4 Dec, 1678. — Sir Thos. Browne to be spoken to about the eyes of John Baliston whether curable or not (afterwards reported curable, especially one eye)” (Rye 1905, p. 161). On May 28, 1679, Browne wrote: “Madame Crofts, your constant patient, who now liveth in Hereford, sent unto mee yesturday by Mrs. [Alice] Pierce, about couching a cataract in her eye. I thinck shee is 76 or 7 yeares of age, and, though shee hath no other way to afford her a litle help, yett I doubt shee will have butt a very dimme sight after it, if the operation should succeed, which she hopes for, by a person of that countrie practicall in that way.”(Browne 1836, vol. 1, p. 245)

Pope wrote of Turberville in 1697:

“He has cur[e]d several who were born blind, but I do not look upon that as so great a thing; for the cure of such, if curable, for there are several sorts of Cataracts uncurable, consists wholly in this; viz. In knowing when the connate Cataract is fit to be Couch[e]d, in having a steady Hand, and skill to perform that Operation...”(Pope 1697, pp. 104-5).

Pope also remembered:

“...his Fame brought multitudes to him, from all parts of this and the neighbouring Kingdoms, and even from America...”(Pope 1697, p. 105)

Turberville had so many patients in Salisbury that:

“...dispersd thro' all the quarters of the City, insomuch, that one could scarce peep out of doors, but he had a prospect of some led by Boys, or Women, others with Bandages over one, or both Eyes, and yet a greater number wearing green Silk upon their Faces...” (Pope 1697, p. 106)

According to John Thomas Woolhouse, Turberville performed paracentesis to release aqueous (Leffler “Woolhouse”). Turberville learned of the procedure from a ship captain who had spent 15 years in Peking (Leffler “Woolhouse”). Paracentesis for a new condition called hydrophthalmia was just entering Europe at the end of the 17th century, as oculists were inspired by the Asian practice of acupuncture (Leffler “Woolhouse”).

Turberville published several cases in 1684, including one in which he used a magnet to remove a foreign body in the iris (i.e. at the limbus) (Kaplan 2004).

Mary Turberville. Turberville’s sister Mrs. Mary Turberville practiced as an oculist in London after his death (Pope 1697, p. 108). She was described as an oculist in her own right as early as 1696, when it was recorded at a house in the Strand “Mary Turberville, oculist, sister of Dr. Turberville, lodged here at a bodice shop” (Hilton Price 1896, p. 157).

Richard Chubb. Upon Turberville's death in 1696, "Dr. Richard Chubb" advertised in London that he had a "Liberal Education" and also "formerly liv'd with Dr. Turbervill, the Famous Oculist of Salisbury, lately Deceased". Chubb performed "the couching of Cataracts". He had practiced around Exeter for the past 14 years (i.e. since 1682), and planned to split his time between London and Exon. (Chubb June 30-July 2, 1696) In 1699, Chubb advertised that he "gave Sight to Mrs. Hilersdon, 11 Years of Age, born Blind, so as to distinguish a Needles Eye from the Point." (Chubb Apr. 15-18, 1699) In 1709, Chubb advertised that he had been practicing for almost 30 years, and had been in Exeter for 25 years (Chubb Oct 4-6, 1709). He had "lately couch'd, and cur'd...Mr. Wm. Carew, of Camelfield, of Cataracts in both Eyes; Mr. Wm. Smale, in Great Torrington; John and Stephen Harvey, of Dolton; Mr. Meadway, Schoolmaster...Exeter; others at Dorchester, Torness, Honiton, Morton, and Hamsteed, and at Topsham, Mr. Spencer Pigot's Father...Mrs. Lettice Radford...London". (Chubb Oct 4-6, 1709).

Female Oculists (by 1649).

Female Oculists in England.

Decade	Oculists
1620-39	Katherine Partridge Springett ('25).
1640-59	Pleasant Beaumont ('51); Theodosia Stepkins (Lady Ivy) ('52); Mrs. Hunt ('55).
1660-79	Lady Hester Webbe ('68); Sarah Cornelius de Heusde ('70); Susanna Hart ('71);
1680-99	Mrs. Dimmock ('86); Mary Turberville ('96).
1700-19	Augustina (Lady Read, '09); Mrs. Jones ('14); Mrs. Cater ('15).
1720-39	Frances Deane ('20); Mrs. King ('33).
1740-59	Mrs. Beaumont ('51); Mrs. Taylor ('54)

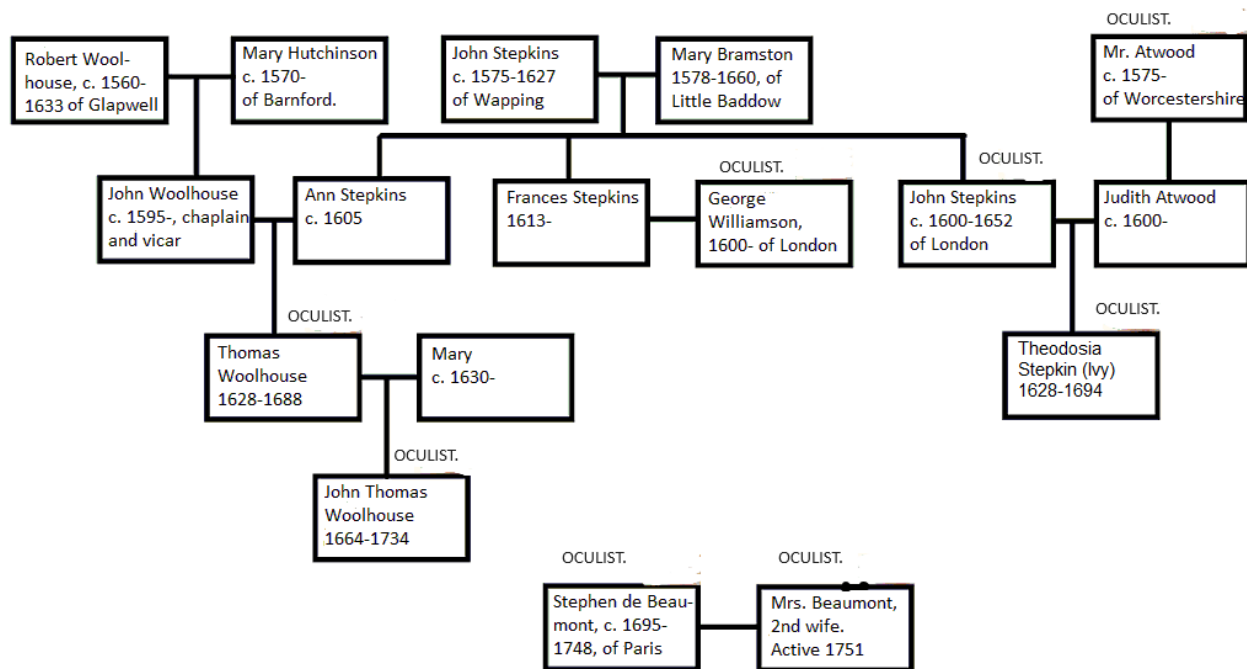
A female English oculist (1649). An interesting procedure was related by physician Theodore Mayerne (1573-1655), who had arrived in England by 1611 (Trevor-Roper/Mayerne 2008) and retired by 1649. A female English oculist ("Mulier Angla oculista") drained the aqueous humor ("*humorem Aqueum*"), which had grown muddy and opaque ("*turbidus & obscurior*"), by inserting a needle into the cornea. The eye collapsed, but was restored when the aqueous was spontaneously replenished, and the vision returned (Mayerne 1692, p. 100; Mackenzie 1840, pp. 712-18). As Mayerne related this story in the chapter on cataracts, some have thought this represented a cataract surgery, perhaps by discission (division) (Mackenzie 1840, pp. 712-18). However, the passage clearly describes drainage of aqueous. If the aqueous had been clear, this case would upset our understanding of ophthalmic history, given that we do not know of paracentesis for hydrophthalmia being performed in Europe until the 1680s, when acupuncture was imported from Asia (Leffler/Woolhouse). However, drainage of hypopyon, as in this case, had long been practiced in Europe. The patient was described as My Lord Rich, son of the Earl of Warwick, i.e. Robert Rich (1611-1659) (historyofparliament/Rich). Our patient was known to have traveled to the Isle of Wight in July 1648 to be touched for "the king's evil"

(Kelsey 2008). Parliamentary intelligence suspected that this diagnosis was an excuse to visit the king, but all agreed he had some sort of illness: “The Lord Rich [eldest son of the earl of Warwick] is with the King. The pretence is to be touched for the King’s Evil, his disease being another.”(Kelsey 2019) Thus, the hypopyon drainage could have been performed in the setting of uveitis, possibly from tuberculosis. The oculist draining the hypopyon could have been any number of women. Lady Katherine Partridge Springett (1599-1647) of Kent was known for “taking off cataracts and spots in eyes”, and was a colleague of John Stepkins (d. 1652) (Leffler/Stepkins). Stepkins’ daughter Lady Ivy was also known as an oculist. By 1655, Robert Boyle knew of an oculist named Mrs. Hunt (Hartlib 1655). Mary Rich (1625-1678), the sister of Robert Boyle and sister-in-law of our patient, was known for “Chirurgery and Physick”, as were several of her female colleagues (Guthrie 1913).

Pleasant Beaumont (1651) and Susanna Hart. On April 17, 1711, Mrs. Hart advertised:

“Mrs. Pleasant Beaumont, the most Antient and Experience’d Occulist of her Age...who practis’d 50 Years...She being deceas’d...Mrs. Susanna Hart, the only daughter of the said Mrs. Beaumont, who was bred up from her Youth, under her said Mother, in her Practice, and for Thirty Years, hath (in London, Westminster, Surry, Kent, and Essex) perform’d the same Cures by the Same Method, Means and Medicines as her Mother did...and takes off Cataracts, so as not to return again.”
(Hart, April 17, 1711)

Figure. Family tree of the Stepkins and Woolhouse oculists. The eye icon represents oculists. Stephen de Beaumont was the nephew of John Thomas Woolhouse.



Thomas Woolhouse (1652). Thomas Woolhouse (1628-1688) was in the dynasty of oculists which included Atwood and Stepkins. He presumably would have been practicing by 1652 when his oculist uncle John Stepkins died (Leffler “Woolhouse” 2017). He was appointed Page of the Presence (personal attendant) to King Charles II from March 19, 1673/1674 until the king’s death in 1685 (Leffler “Woolhouse” 2017).

John Thomas Woolhouse. John Thomas Woolhouse (1664-1733/4), the son of the oculist Thomas, had learned to perform cataract couching at the age of 13 (Leffler “Woolhouse” 2017). Woolhouse followed James II into exile during the Glorious Revolution of 1688. Woolhouse was with James II during his invasion of Ireland, and did practice eye surgery there, from 1689 to 1690. Surgical students from throughout Europe, including England, traveled to Paris to study with Woolhouse, especially in the period from 1718 to 1721 (Leffler, “Woolhouse” 2017; see Figure above).

Mr. Middleton (1653). Walter Powell (1603-1654) of Wales recorded in his diary:

“1653 April...13, my eye was cooched by Middleton but failed to spread” (Powell 1907, p. 45)..

As Middleton treated Powell repeatedly from 1650 onward, Middleton was probably local to Wales.

Mr. Fairfax (1654). Walter Powell (1603-1654) of Wales recorded in his diary:

“1654...July 2...the cataract in my left eye was cut by Mr. fayrfax but not cured.”
(Powell 1907, p. 46)

As Fayrfax was not mentioned any other time by Powell, it is possible that Fayrfax was located in England, rather than locally in Wales.

Peter Heylyn (patient, 1654). Peter Heylyn (1599-1662), the royal chaplain, had cataracts from 1654 onward, severe enough to require other men to guide him (Vernon 1682, p. 265) but the cataracts were considered too immature to couch.

Mrs. Hunt (1655). Samuel Hartlib (c. 1600-1662) wrote in 1655 that:

“Mr [Robert] Boyle told of an Oculist Woman who hath performed wonderful cures vpon herself and others but would not part with the Secret. Her name is Mrs Hunt.”
(Hartlib 1655)

Hartlib himself had decreased vision beginning in 1653 due to bilateral cataracts (Greengrass 2007).

Adam Earle (1662). On May 24, 1662, “Adam Earle, of Chester, was granted a Dispensation to exercise the Art of Oculist (occulista)”. (Irvine 1912, p. 26) It is not known if he was related to the oculist Earle located in Staffordshire described by Richard Banister in 1622.

John Russell (1663). In 1663, John Russell was granted a license to practice as a physician, of St. Sepulchre, Holborn, London by the Archbishop of Canterbury (No author “Lambeth” 2017).

In August 1667, Russell was granted a royal license to practice:

“Licence to John Russell, mountebank, practitioner in physick and surgery, to erect a stage in London or elsewhere, to vend his medicines, prohibiting all strangers not naturalized to practise near him...” (Green 1866, vol. 7, p. 431)

He was in Norwich in 1668 and 1672:

“9 Jan., 1668-9. Mr. Russell (chirurgeon) to have liberty of the stage no longer, and his servants who pretend to act drolls are not to act longer, there being complaint of the obscenity of the speeches and actions, and the Master of the Bevels disdains their authority.” in Norwich (Rye 1905, p. 123)

“11 Dec, 1672. — Mountebank, John Russell, practitioner in phisick, produced His Majesty's letters to erect a stage and sell his medicine, a month's licence granted.” in Norwich (Rye 1905, p. 129)

Several of his handbills are thought by bibliographers to date from about 1680, though given his known activity from 1663 to 1672, they could date from earlier. One is found in the British Library Collection of 185 Advertisements (shelfmark C112f9[1]). It has a picture of Russell at the top, and is adorned with examples of his surgical cures around the edges (Russell “C112f9[1]” 1680). Of ophthalmic interest is the image of “Couching a catract of one that had been blind 30 years”, showing a man with his sound (right) eye

covered with a cloth, who seems to be gazing straight forward as the couching needle enters the temporal aspect of his left eye. Also, there was a picture of a woman having “a Carnosity Cutting Off the Eye”. She had both eyes open, and an assistant’s hands are seen holding an eyelid speculum during the procedure (Russell “C112f9[1]” 1680). The copy in the British Library reads:

“J. Russel. Professor of Physick, and Oculist. At the Two Blew Posts against Grays-Inn in Holbourn. These pictures present what I have Cured by Manual Operation; besides such variety of other Cures on the Sick, Lame and Blind (by Medical Applications)...There is above a 100 Diseases of the Eyes, and few understands their Cure, which causeth so many Blind that a good Oculist might have prevented; for its not enough to say he is a Linguist (if he have not studied to be an Oculist) that will not serve the Patient, who cries, give me Ease and Sight, or else I am forever Blind. Those that are troubled with distempered Eyes, if they come in time they may have Cure. I have cured many that have been blind 20 or 30 years, 2 of them born Blind. Many Ocular Diseases are Cured by a Medicinal Application, some by Manual Operation. In couching Cataracts, if they err little more than an hairs breadth, the Sight is for ever lost, that might have been preserved by a dextrous hand. Some in couching of Cataracts have destroyed the Pupil of the Eye, rent and tore the Uvea or Grape-Coat, made a confused mixture of the Aqueous Vitreous or Albugineous Humours; rent and broke the Christalline in sunder, leaving such and Inflammation on the Adnata, by their tedious turning and twisting their Instrument in the Eye, that the Inflammation is a long while a curing, and extreme Pains of the Head, and loss of Sight for ever. Many mistake the Ocular Ulcer for a common Speck; who by their Waters and Powders, corrode the Adnata and Cornea asunder; giving such vent to the Humors in the Eye, that the Eye sinks presently, never to be restored: Some by applying Corrosives to Ocular Ulcers, have dilated them over the whole Cornea, which if ever Cured, leaves an incurable Cicatrix or Scar, with perpetual loss of Sight.” (Russell “C112f9[1]” 1680)

Another of his handbills is later in the British Library Collection of 185 Advertisements (shelfmark C112f9[148]) with the transcript kindly provided by Roberta Mullini:

“J. Russel. Professor of Physick, and Oculist. At the Two Blew Posts against Grays-Inn in Holbourn. It’s needless to declare the Particulars of those Cures I performed in Smithfield...There is above a 100 Diseases of the Eyes, and few understands their Cure, which causeth so many Blind that a good Oculist might have prevented. Those which are troubled with Distempers of their Eyes, if they come in time they may have Cure. I have cured many that have been blind 20 or 30 years, 2 of them born Blind...Mr Pedey at the Lyon in Maiden-lane in Covent Garden, was blind with Obstruction of the optick Nerves, which to the admiration of all his Friends I cured, Mrs. Clun in Butchers Court in St. Jons street, was many years blind, I Cured her so as to walk in the street without a Guide, being 84 years old, I cured the Widow Chiron in Carpenters court in Long-lane that had been blind many years, I cured the Widow Branch at the Kings-head in Glean Alley in St. Tooley’s street, that had been long blind...I cured the Widow Warren in School-house-lane by the Glass-House, in

Ratcliff, that was almost blind a long time...I cured Mr Friends Child in Fishers Rents in Salisbury Court, who was almost blind with the Kings Evil, being much broke out in the face...I have cut off many Cancerated Breasts in the Presence of many Physitians and Chyrurgions, most that Lives in Smithfield can justifie.” (Russell “C112f9[148]” 1680)

Russell’s other handbill is found in the British Library Collection of 231 Advertisements (shelfmark 551A32[220]):

“Removed from Smithfield to Leather-Lane in Holborn...near Hatton-Garden.

J. Russell, Occulist, Professor of Physick and Surgery, etc. Who in Smithfield...curing most distempers of the Eyes, and couching Cataracts of any that have been blind 20 or 30 years, two of them born blind, with all other Manual Operations...” (Russell “551A32[220]” 1680)

John Sixton (1665). John Sixton of Bowes was described as an “occulist” in a legal proceeding in 1665 (Rushton 2015). He stated that “Charles Stewart is a tyrant and brought in an Army to destroy this nation”, and was charged with using language which was “false, scandalous, malicious, opprobrious and seditious” (Rushton 2015; Peter Rushton, personal communication, 2018). According to other sources, Sixton was described as a clerk of Bowness, and uttered these words in July 1664 (Raine 1861, p. 124).

George Moretto (1665). On March 13, 1665, Moretto was awarded a: “Certificate by Robert Fox, and eight other residents in London, to the wonderful cures of wens, hare-lips, cancers, blindness, etc., performed by George Moretto on his stage at Tower Hill, those for the poor being done for charity.”(Green 1863, p. 302)

With this certificate in hand, he submitted in April 1665 a “Petition of George Moretto, his Majesty’s Surgeon, to the King, for leave to erect a stage in both the Universities [Oxford and Cambridge], and in any other place in the kingdom, free from all impositions”.(Green 1863, p. 302)

On April 11, 1665, Moretto was successfully awarded a “Licence to George Moretto, in consideration of his skill in medicines and surgery, to practise in any part of the King’s dominions, and to expose his medicines for sale publicly, by erecting a stage in the Market Place, or any other mode which he deems convenient, without molestation to himself or servant.”(Green 1863, p. 303). The license was endorsed “Mountebank”.(Green 1863, p. 303)

It is interesting that Salvator Winter called himself Salvator Winter Moretto in his 1647 handbill (Winter 1647).

Johannes Michael Philo (1667). In August 1667, “Johannes Micha Philo” was granted a royal license in London to practice throughout the kingdom. No one else was permitted to erect a stage near his (Matthews 1964).

In Norwich: “23 Nov., 1670. — Johanes Michael Philo, chiru[r]geon, produced letters of license to sell medicine and to erect a stage.” (Rye 1905, p. 125)

In May 1672, “Joannes Michael Philo” physician and “sworn operator to his majesty” was permitted to erect a stage in Edinburgh, on which he cured 13 blind persons and cut several cancers. However, he was “discharged to have any rope-dancing” (Chambers 1874, vol. 2, pp. 347-8).

Lady Hester Webbe (1668). In June 1668, the state papers report the “Petition of Lady Hester Webbe, widow, to the King, to be admitted his servant under the title of oculist, of which she hopes to be found capable when required; is so oppressed by law suits that she cannot live without protection as his Majesty’s servant.” Then, on June 26, there is the “Declaration by the King that Lady Hester Webbe is his servant in ordinary as oculist...” (Green 1893, vol. 8, pp. 460-1)

Honoratus Le Begg (1668). Honoratus Le Begg of Canterbury received a medical license in 1668 from the diocese, and then in 1675 a license to practice medicine and surgery in the province of Canterbury (Harley 1994, p. 398).

The town records of Norwich indicated that on:

“26 April, 1677. — Honoratus Le Begg, Chirurgeon and Practioner in Phisick, has license to erect a stage at the Guildhall to sell his medicines and perform cures upon the stage.” (Rye 1905, p. 144)

On October 9, 1682, an oculist advertised in the Domestick Intelligence of London that he had just come from Egypt, where he had learned new ophthalmic techniques. It is possible that this was Le Begg:

“There is lately come over from Egypt, an Occulist who professeth only to cure the Distempers of the Eyes, whether it be blindness, weakness of Sight, Sore Eyes, pearls, Spots, Clouds or any other Distemper or Blemish in the Eyes; which he does perform by a Method far better, safer and speedier than hath hitherto been known in these parts of the World, having travelled many years together into remote Countries on purpose to improve his profession.”(No author listed [Le Begg?] Oct. 9, 1682)

Le Begg settled at some point in Lancaster, selling medicines by mail (Harley 1994, p. 398). He described his trip to Egypt in a 1694 London advertisement:

“Doctor Lebeg, Oculist, And a Graduate Physician eminent for Couching of Cataracts...who, for several Years, lived in Hatten-Garden, when being sent for into Spain, by a Person of the chiefest Rank in that Kingdom, who was Blind with Cataracts: He was in his Voy[a]ge thither taken by a Turks Man of War, and sold at Algiers as a Slave; and afterwards sold again into Egypt, where he remained 2 Years. After which he return’d into England; and hath liv’d and practiced in the North of England ever since. Which long absence of his has been the occasion of a Report that he is Dead.”(Le Begg June 11, 1694)

Sarah Cornelius de Heusde (c. 1670). Sarah Cornelius de Heusde (d. after 1671), who ultimately advertised as a healer in London, was married in Amsterdam in 1617 to a surgeon named Sasbout Cornelisz. Souburgh (c. 1597-1653) (No author “Sara Cornelisdr” 2019; No author “Sasbout Cornelisz” 2019) Her husband died in Dordrecht. Their sons Isaac Sasbout (1634-1660) and Jacob Sasbout Souburg (1637-1694) were also surgeons (No author “Isaac Sasbout” 2019). Jacob was known to cut for the stone (No author “Jacob Sasbout” 2019). Sarah and Sasbout also had a daughter named Cornelia Sasbout (1629-?). One of their grandsons was also a doctor who practiced in London before the Great Fire of 1666. Biographical information on the family is held in the Stadsarchief Amsterdam (No author “Sara Cornelisdr” 2019). Our estimate of her practice date of about 1670 to 1675 is based on the fact that her handbill must have been issued after the Fire, but before she was too old to practice.

Sarah Cornelius de Heusde described herself as the “Widdow of Dr. Sasbout, and Granmother of the Doctor that had his Stage upon Great Tower-Hill, and did so many Cures before the Fire.” Her handbill is found in the British Library Collection of 185 Advertisements (shelfmark C112f9[61]):

“...But it is not so with me, who have learned these my Sciences of my Father and Husband, who both were Physicians...my Father and Husband were necessitated to discover such Diseases unto me...I also cure all Wens, Excrescencies, Boyls, the terrible Canker at Womens Breasts, Mouth, Tongue, Neck...And I cure also divers great Diseases of the Eyes, as Cataracts, Films, Pearls...By me Sarah Cornelius de Heusde, Widdow of Dr. Sasbout, and Grandmother of the Doctor that had his Stage upon Great Tower-Hill, and did so many Cures before the Fire. Therefore if there be any Person, who hath occasion for this Famous Operatoress, she liveth at the Sign of the Red Lyon by the Postern Gate, in George Yard, between Great and Little Tower-Hill...” (Cornelius “C112f9[61]” c. 1670)

Sarah treated “Cataracts” and described herself as an “Operatoress”, and others in her family operated for cataracts. Therefore, it is possible that she actually couched cataracts at some point.

Abraham Souburg de out Heussden. The handbill of Abraham Souburg de out Heussden and his sister is thought to date from 1690 (Souburg 1690), and is part of the British Library’s Collection of 185 Advertisements (shelfmark C112f9[140]). Given the similarity in names, and their origin in Heussden, it seems likely that Abraham and his sister were related to Sarah. The handbill reads:

“...to this Famous City of London is come Dr. Abraham Souburg, a Renowned and well Experienced Physitian, Cutter of the Stone, and Occulist...great Repute in the United Provinces of the Netherlands, and in several Kingdoms and Dukedoms, having by his continual experience acquired many a fine and curious manual Operations...This Physitian is an Experienced Occulist, and doth cure many grievous Distempers in the Eyes by Manual Operation, with a Needle of Gold, Silver, or Steel, even those who are Blind by a Cataract, be they Men, Women, or Children, he hath cured many by Gods assistance, and brought them to their sight

with speed, and without pain or smart, who could not distinguish by reason of their Blindness, Fire from Water, nor the Sky from the Ground, for there is no Person in all the United Netherlands, nor in this Famous City, who can Operate with a Silver, Gold, or Steel Needle as he: He hath cured 184 both Young and Old of Blindness, by the help of the Needle only, without any Medicines: He doth also cure all Spots or Specks in the Eyes, Pearls, Rheums, Dark or Glimmering sight, and such like defects, too long to be here inserted, there being 313 Distempers incident to the Eyes...This Doctor, Occulist, Cutter of the Stone, Rupture, Cancer, and Hair-Lips, having a Yearly Sallery from the Lords States of Overysse, and from the States of Groningen, and the Province of Utrecht. Abraham Souburg de out Heussden, Resident at Groningen, and at present to be found at London. If any Gentlemen or Maids have any Distemper, and are ashamed to discover themselves to me, they may speak with my Sister, who Lives with me..." (Souburg 1690)

Hermannus Weineck (1675). Weineck advertised as an oculist in London in 1675, but he did not limit himself to that specialty. He accepted new patients up until 10 PM every night:

"Here lately come over one Hermannus Weineck, a famous Physician, Oculist, and Chirurgeon...He cures all Venereal Distempers, without Mercury. The Stone, Grave, Ruptures, Cankers, Harelips, Wens, the Vertigo, Deafness...all curable Diseases of the Eyes, Tooth-ach, draws Teeth, and sets in new ones artificially...He lodges at Mr. Trippins house...Covent Garden...and may be spoken with at any time of the day, and until Ten at Night."(Weineck Nov. 18, 1675)

Cornelius Tilborg (1675). Cornelius Tilborg (d. 1725) was a surgeon and mountebank, born in Hamburg (Mullini 2016, p. 119) who advertised that he couched cataracts. Tilborg advertised in 1710 that he had practiced in London for 35 years (i.e. since 1675) (Mullini 2016, p. 119). In a handbill estimated to be from 1690 to 1700, Tilborg stated that he had practiced "in High-Germany, Poland, France, Spain, and Italy" (Tilborg "Laus deo semper. That..." 1690-1700).

In 1678, Tilborg received the secret formula of the antidote Orvietan from Pier Maria Mazzantini, who had brought it to the British Isles (Matthews 1964, p. 30).

On October 2, 1682, "On the petition of Cornelius Tilbourne, practitioner in physic and chirurgery, to be sworn one of the King's chirurgeons, having made an experiment before his Majesty of the virtue of his antidote against poison, taking 60 grains of auripigmentum and arsenic, his Majesty, having seen the above-mentioned experiment performed to his satisfaction" makes Tilburgh "one of his Majesty's chirurgeon's in Ordinary" (Daniell 1932, vol. 23, p. 450).

Tilborg appeared in Norwich in 1683:

"5 Sept., 1683. Cornelius Tillbourne, chirugeon, producing his "Patten" from the Master of Revels to have liberty to set up a stage and practice chirurgery and physick for one month, stage to be at east end of Guildhall..."

10 Oct., 1683. — Cornelius Tyllbourne only to appear on Saturdays, the Court being sensible of the great damage the City sustains by idle persons repairing to see tricks exposed upon the stage to the great loss of their masters.” (Rye 1905, p. 173).

In October 1683, Tilborg was in York, but the mayor forbade stages to be erected. In January 1684, Tilborg petitioned the king to be permitted to set up a stage in York (Matthews 1964, p. 30).

In 1684, Tilborg was in Edinburgh, and was granted permission by the Privy Council to erect a stage, despite the objections of the College of Physicians. Tilborg repeated the experiment of using an antidote to prevent death from poisoning, but the experiment failed, and his servant died (Matthews 1964, p. 30).

In 1688, Tilborg appeared in Norwich:

“29 Nov., 1688. — Cornelius Tilbourne has leave to erect a stage at the Halls end to expose for sale his antidote against poison and other medicines.

5 Dec, 1688. — It is ordered that whereas at this juncture it is feared that if the Court shall consent to Cornelius Tilbourne to erecting a stage it will draw such a concourse of people, &c., that for preserving of the peace of the City only it is denied him.” In Norwich. (Rye 1905, p. 185)

Tilborg also practiced in Oxford, Dundee, and Aberdeen (Mullini 2016, p. 119).

In 1693, he was charged by the College of Physicians of London with practicing without a license, and was imprisoned and then fined 50 pounds (Matthews 1964, p. 30).

About 1694, his handbills advertised his services in London (Matthews 1964, p. 30). His handbill estimated to be from 1690 to 1700 stated that he was a “High German Operator, Oculist, and Rupture Master” (Tilburg “Laus Deo Semper” 1690-1700).

One of Tilborg’s handbills from the reign of William and Mary (1689-1694) is in the British Library’s Collection of 185 Advertisements (Shelfmark C112f9[6]). The transcript was kindly provided by Roberta Mullini:

“By their Majesties Special Licence and Authority.

From my House in Bridges-Street in Covent-Garden...I Cornelius à Tilbourn, sworn Chirurgeon to the late King Charles the Second, and now Priviledg’d by our present Gracious Sovereign Lord and Lady, King William and Queen Mary, have for several years past, in and about the City of London, whereby Thousands of People have receiv’d benefit...I shall there dispose also of my ORVIETAN, either in Liquid or in Powder, from Half a Crown the Box to Five Shillings, and so to what quantity or price you please. This is that Famous Medicine, and the only True ORVIETAN, that expell’d that vast quantity of Poison before KING CHARLES the Second, from which I receiv’s from that Bounteous Prince, A Gold Medal and Chain...This famous Physician or Operator (with God’s Blessing) Cures those Distempers following...If any Person be troubled with Films or Cataracts in their Eyes, if the Pupilla or Apple of the Eye be not hurt, I can restore them to their Sight presently: I also cure any

Pearls or Blood in the Eyes, or over-grown Flesh in a short time...You may also be furnished with his most Wonderful Eye-Water, generally Fam'd throughout the Town, for Curing all Distempers in the Eyes, and also for strengthening and restoring the decay'd Sight of people of what Age soever: You may have it from five Shillings the Bottle...I can, if any Person do by Accident or Misfortune lose one of his Eyes, Artificially put in another, not to be discern'd as a blemish by any Person.” (Tilborg “C112f9[6]” 1689-94)

He also cured “Hare-Lips” and could “Artificially cut the Polipus in the Nose”. The handbill lists numerous testimonials, but none relating to the eyes.

One of Tilborg’s handbills from the time of King William III (reign 1694-1702) is preserved in the British Library in the Collection of 231 Advertisements (shelfmark 551A32[3]). A transcript was kindly provided by Roberta Mullini:

“...By His Majesty’s Special :Licence and Authoritie...in Great-Lincoln-Inn Fields, in Holbourn-Row...liveth Cornelius à Tilburg, Sworn Chirurgeon in Ordinary to the late King Charles the II, as also to our present Gracious Sovereign Lord King William...I dispose of my famous Orvietan, either Liquid, or in Powder, what Quantity or Price you please. This is that Orvietan that expell’d that vast quantity of Poyson I took before K Charles the II for which His Majesty presented me with a Gold Medal and Chain...I perform all Manual Operations, as the Stone in the Bladder or Kidnies, by cutting...I Recover and give Sight to the Blind, by taking away all Films, Specks, Spots, and by couching of Cataracts. I restore Sight in a moment. I cure hare-Lips in 6 days. The Cancer, or Noli me Tangere in the Breast...My wonderful Eye-Water, fam’d th[r]oughout the City fro strengthning and restoring decayed Sight: You may have from Five Shillings the Bottle, to what Price you please...Cornelius à Tilburg.” (Tilborg “551A32[3]” c. 1694-1702)

This handbill also noted that Tilborg cured “French-POX...without Mercury”, “Rickets”, those who are “Lame”, “Deafness”, “Scorbutick Distempers”, “Ruptures Or Broken Bellies”.

Another handbill from the time of King William III (1694 to 1702) features an illustration of Tilborg apparently couching a cataract (BL 551a32[112]r). The procedure is performed indoors near a window. The surgeon stands in front of the patient, who is seated on a chair without arms. The surgeon’s left hand is used to operate on the right eye in a temporal approach, while the right hand holds the patient’s chin. A child watches. The handbill noted that Tilborg had Remedies so that “all Persons concern’d, that have either Weak or Dimm Sight, occasion’d by Age or otherwise, and are oblig’d to wear Spectacles, He undertakes to bring them to see well without them in a Weeks time...He takes off all Pearls, Pins, Webbs, Cataracts, both White and Black...and gives immediate Sight to those that are termed Stone-Blind...”(Mullini 2016, p. 119)

Tilborg advertised in the September 8, 1710 Daily Courant (issue 2770) (Mullini 2016, p. 119). His will was proved in June 1725 (Mullini 2016, p. 119).

George Fairclough (1675). George Fairclough (alias Fadlutt) received a medical license from the Archbishop of Canterbury in 1675 (No author “Lambeth” 2017; Wallis 1988, p.

193). He advertised as an oculist in London in 1701, and had cured someone who had been assaulted (Fairclough June 3-5, 1701). He had been to Bath in the summer of 1701, and had also been to Bristol, but was back in London by September 1701 (Fairclough Sep 18, 1701). In 1702, he described himself in London as a “Medico-Oculist that was blind himself” (Fairclough Feb. 19, 1702). It seems doubtful that he would have performed couching.

Gonsale Gerardts (1675). Gonsal Geerards from The Hague was licensed as a surgeon in London on October 28, 1675 (Wallis 1988, p. 224). His handbills were thought to date from about 1695 (Gerardts 1695), but given earlier date of the license, they are probably earlier. In one handbill, found in the British Library Collection of 185 Advertisements (shelfmark C112f9[63]), he calls himself an oculist:

“...this most Renowned and approved Dutch Doctor in many Nations, was born in that great and Famous City and University of Leyden in Holland Is now come to this Famous City of London, through the perswasion of many Eminent Persons, that knew in what great Credit he lived in Holland...I could mention many more Effects and Operations that I have done...as I can make appe[ar] by the Testimonies of several in this Town. As also in Germany, Hamburgh, Bremen, Paris, where I have been Three years a Practitioner at the Kings Hospital...I presently give ease I can dissolve the Stones either in Bladder, or Gravel in the Kidneys...This Leydens Dutch Doctor, Oculist, Chirurgion, and Rupture Master, who liveth over against the May-pole in the Strand...Gonsale Gerardts, A Dutch Doctor...” (Gerardts “C112f9[63]” 1695)

John Schultius (1679). Lamont of Newton, Scotland, recorded in his diary in December of 1662:

“...ther was ane other mountebanke, a High German, that came to this kingdome, that had the like sports and commodities...He was att Ed[in]b[urgh]. in like maner twise; as also att Aberdeine and Dundie; he likewise had the leaping and flying rope; via coming donwe ane high tow, and his head althe way downeward, his armes and feite holden out all the tyme...” (Lamont 1830, p. 159)

Lamont was clear that this German doctor was distinct from John Ponteus (Lamont 1830, pp. 158-9). Some have thought that this was Cornelius Tilborg (Thin 1938, p. 138-9). It is possible that this was John Schultius, who described himself as High German. Schultius’ undated handbill in the British Library Collection of 185 Advertisements (shelfmark C112f9[27]) was transcribed by Roberta Mullini:

“...John Schultius an High-German Physician, and Operator in Chirurgery, who (after a daily Practice for several Years together, and traveling into Foreign Parts and Kingdoms where he hath exercised his Art and Profession to Admiration)...he, the said John Schultius, hath done of late Years, especially in Poland, Germany, Italy, Holland, and Flanders...This German Operator is a very expert Oculist, taking away Cataracts in the Eyes immediately with a curious fine Instrument, curing the Patient, though he hath not seen 10, 20, or 30 Years...This Operator is very expert in Lithotomy, or taking away the Stone out of the Bladder...He is to be

spoken with at the Three-Flower-Pots in Holbourn-Row, in Lincoln-Inns.Fields, over against his Stage.” (Schultius “C112f9[27]”)

There were several German physicians or surgeons with similar names. The most famous was surgical author Johannes Schultheiss (1595-1645), whose name was Latinized as Johannes Scultetus, of Ulm, Germany (Scultetus 2003). His work, which included figures of cataract couching, was published posthumously by his nephew, also Johannes Scultetus, and was translated into English in 1674 (Scultetus 1674). This younger Scultetus died at Ulm in 1663 (Ferguson 1906, vol. 2, p. 360).

There was another doctor, more interested in medicine and botany, Johann Schultze, Latinized as Joannes Scultetus (1621-1680). He was the town physician at Nurnberg, and, according to the account, died either in 1680 in Nurnberg, or in 1687 (Ferguson 1906, vol. 2, p. 360).

Most of the handbills in this English collection date from about 1679 to 1700. Perhaps the high German surgeon who advertised in England as John Schultius at the end of the 17th century hailed from one of these medical families of Ulm or Nurnberg.

John Newman (1679). The handbill of John Newman (1680) is found in the British Library Collection of 185 Advertisements, shelfmark C112f9[66]:

“JOHN NEWMAN, a Legal and Approved Practitioner in Physick, and most expert in all Chyrurgical Operations, who, by means of his great Experience in Twenty years Travel, hath attained to many Rare Secrets in Physick and Chirurgery...He dexterously Couches the Cataract or Suffusion; and helps Rheums, Specks, Ongula or the Nail in the Eyes, Dimness, Pearls, weakness, and all other Infirmities of the Eyes, if curable...Operations I have perform’d upon my Stage, since my coming into Moorfields. March 28. 1679...” (Newman “C112f9[66]” 1680)

None of the cases he reported in Moorfields related to the eyes.

William Read (1673). William Read was the son of a shoemaker from Halesworth in Suffolk (Nichols 1858, p. 153). He began practicing in about 1673, given “his 32 Years Practice and great Experience” by 1705 (Read March 26, 1705). According to a contemporary antiquary, Peter Le Neve (1661 – 1729), Read had some connection to John Ponteus, as Read “cleaned Ponteus the mountibanke’s hows formerly.”(Nichols 1858, p. 153) Later, Le Neve wrote that Read “was a mountebank formerly, and servant to Ponteus. He was a barber at Ashdon in Essex” (Nichols 1858, p. 153).

Read wrote an autographed manuscript in which he noted that there were:

“...there are some Quacks that go abroad to Fairs and Markets on horseback, which were never bred to that practice, but were Tumblers, Rope-Dancers, and Jack-Puddings, several of which have been my servants, and now do pretend to counterfit these my Medicaments, which were never prepared by any except my Master Dr. Ponteus, Dr. Winter, Dr. Harvie, and my self.” (Jones 1963)

The historian Gordon Jones interpreted Read to mean that he had studied under Ponteus (Jones 1963). Jones did not realize that this manuscript of Read's was actually published, but it was (Read 1691?). Bibliographers do not know exactly when it was published, but given that Read described the work as "a catalogue of those medicaments he sold off his stages during the time of his eighteen years travelling in England, Scotland, Ireland, and many forrain Kingdoms" (Jones 1963), it would seem to date from about 1691. Read did include a recipe for Orvietan (Read 1691?). Of note, the published version falsely includes a comma (not seen in the actual manuscript) (Jones 1963) between the phrases "my Master" and "Dr. Ponteos" (the latter misspelled), which makes it appear more that they are separate entries, rather than that Ponteus was Read's teacher.

As Ponteus was said to have retired to Salisbury, and Read's advertisements mentioned that he had a house at Salisbury, it is possible that Read did know Ponteus in his waning days. After 1691, Read pursued a more respectable career. He stopped mentioning Ponteus, practicing on "his stages", or his mountebank life. Read pursued the strategy of visiting the universities in Ireland in England.

Read's enemies stated that he could "hardly read" (Nichols 1858, p. 153).

Read obtained an early certificate of his cures in Ireland:

"Trinity College, near Dublin, March 7, 1684.

Though the art, experience, and reputation of Mr. William Read, practitioner in physic, chyrurgy, and a great oculist, be sufficiently known in England and Scotland, where he has long exercised his skill with very good success; yet since he has but lately come into his Majesty's kingdom of Ireland...he has done several remarkable cures with great dexterity and success; as the couching of cataracts, cutting off cancerated breasts, mortified arms and legs (and very little effusion of blood, by virtue of his excellent styptic water), several of which operations we have, with very much satisfaction, ourselves seen him perform..."

This certificate was signed by a bishop, the provost, and by Allen Mullin, MD (Everitt 1888, pp. 252-3).

In 1687, he couched the cataract of "the daughter of Mr Johnson at Grundon in Northamptonshire, who was Born Blind and restored to her perfect sight", and 20 more in the same area (James 2013, p. 128).

In 1687 and 1688, he couched "John Davenore near Rippon in Yorkshire", also reportedly born blind, and almost 100 patients more in the North of England (James 2013, p. 128).

In September 1689, Read received a certificate from the vice-chancellor of the University of Oxford, indicating that he removed a breast and performed other operations "during his Time in Oxford, to the great Satisfaction of the Spectators"(Read Jan. 24-26, 1710)

It was probably in about 1691 that Read published “a catalogue of those medicaments he sold off his stages during the time of his eighteen years travelling in England, Scotland, Ireland, and many foreign kingdoms” (Read 1691?).

In 1693, he visited Oxford again, and “couch’d” the following: “Mrs Souch, Mrs Hall, Mrs Bishop, Mrs Sherlock, Mrs. Sawyer, Mrs Simms, Mrs Kerby, Mrs Day, Mrs Faulkner, Mrs Bostel, Thomas Alcock, Thomas Cliff, Margaret Gole, and many poor People gratis: all restored to their sight”(James 2013, pp. 127-8).

In May 1693, a French man “had his skull Trepann’d which was dangerously Fractur’d by a Fall from Horse, and was cur’d by him [Read] at Bath”(James 2013, p. 129)

In 1693 or 1694, he also restored to sight “Captain Cook of Cirencester” who was 80 years old. Madame Strickland of Denton in Buckinghamshire was “restored to sight by couching” in the year “1693-4”. Presumably it was in the same period (1693-4) when Hannah Ayres and Alice Ayres of the same town were also “restored to their sight by him, although Blind from their cradles” (James 2013, p. 128).

In April 1694, he “couch’d Mr Reeves, a gentleman” at Windsor, though he was 80 years old (James 2013, p. 128)

On May 16, 1694, Read “couch’d the daughter of Mr John Hanson”, the register of “Eaton Colledge near Windsor, who was born Blind” and brought her to see very well in a few minutes (James 2013, p. 128).

Read’s handbill, apparently from about 1694, described his cures from 1689 to 1694. He described himself as “William Read, Oculist and Chirurgical Operator”, and featured an illustration of him performing the “couching of Cataracts” while seated indoors. (James 2013, p. 127) He indicated that he had been three times to the “University and City of Oxford” where he had “restored Thirty Blind people to their sight by couching” (James 2013, p. 127). Patients who needed treatment in 1694 could “come or send to his lodgings while he stays in this Town, which will be for some part of this winter.”(James 2013, p. 127)

In 1696, “Mr. William Read...Oculist” advertised that he “hath cured many hundreds of blind People in these 3 Kingdoms, some whereof were born blind...”(Read Sep 24-26, 1696). He noted that he had a “Cephalick Restorative Medicaments to the Optick Nerves” which could cure “Gutta Serena, vulgarly call’d a black Cataract” (Read Sep 24-26, 1696).

In February 1697, “Mr. William Read” received a certificate from John Covel, the Master of Christ-College in Cambridge. Covel had witnessed Read’s skill at “couching of Cataracts” (Read Jan 19-21, 1710)

Later that year, “Mr. William Read, Sworn Occulist in Ordinary to his Majesty, did, on August 3, 1697, Couch two Cataracts on the Eyes of George Smith, about Nine years of Age; who was Born blind, received sight in a Minute...” (Read Aug 12-14, 1697). The father, Barnabas Smith, was rector of Panton in Lincolnshire. The operation was witnessed by “Dr. William Briggs, Physician in Ordinary to his Majesty” (Read Aug 12-14, 1697)

By 1698, Read advertised that he was “Oculist and Operator of the Eyes, and in that Quality sworn Servant in Ordinary to His present Majesty” [King William III] and could cure “Albugo’s, occasioned oftentimes by the Small-Pox...”(Read 1698, May 26-8, 1698) Read “Restor’d so many Blind People to their Sight in the University and City of Oxford, in the Year 89; and also in Cambridge, in 95,-7”(Read May 26-28, 1698)

In 1702, Read advertised that he had couched the cataract of Sir Cecil Bishopp, 4th Baronet (c. 1635 - 1705):

“The Honourable Sir Cecile Bishop Bart, of Partham in Sussex, who had been blind of a Cattharact for some considerable time, was Couch’d at his House in Lincolns-Inn Fields...By Mr. William Read...in presence of Eminent Phisicians and Surgeons, vis. Dr. Tyson and Mr. Bernard (Surgeon in Chief to her Majest) &c....Mr. Read...is to be advised with at the black Raven...and afterwards at his House in Salisbury.”(Read Sep 24-26, 1702)

In 1702, “Mr. James Silvester, of Dockmansfield in Hampshire, who had been many Years blind of both Eyes, was restor’d to perfect sight in a Minute by Mr. William Read...the Person was 75 Years of Age...he also Couch’d John Collins of Godleman, Aged 61...He likewise Couch’d Mrs. Hilton...near Guilford in Surrey, whose Sight is so perfectly recover’d, that she can see to read any small Print”(Read November 14-17, 1702).

In December 1702, “Mrs. Payne, (Wife of Mrs. Payne, Goldsmith...) who hath been blind of Cataracts for several years, was couch’d by Mr. William Read, (the Approved Occulist” in half a minute’s time, and can now see so perfectly well as to thread the finest Needle, and read the smallest Print, tho stone-blind before.”(Read Dec 17-21, 1702, p. 2)

In January 1703, Read reported that “Whereas Mrs. Catherine and Alice Newson, Sisters, living in the Parish of Cooklie, near Hallworth [Halfworth] in Suffolk, who were both born blind, and brought to their Sight so perfectly after the Operation of Couching, which was performed by Mr. William Read, the Occulist, that they can see to thread a fine needle.(Read Jan 25-28, 1703) Later he clarified that “the eldest was 23 Years of Age, and the other 20...”(Read Oct 14-16, 1712)

In 1703, “Mr. Edward Bean at Chatham, Aged 60, who was Blind of both Eyes between 17 and 18 Years, was Couch’d...January, 1703 by Mr. William Read...he also Couch’d Mrs. Podder, Aged 83...”(Read 1703, p. 2)

In the Spring of 1703, “Mr. William Read” transformed into “Dr. William Read”. In May of 1703, “Mrs. Mary Beaming...Aged 80 Years, who hath been blind of both Eyes great part of her time, was couch’d and restor’d to her Sight of both Eyes on the 29th instant, by Dr. William Read”.(Read May 31, 1703)

In July 1703, “Mr. John Blowes....aged 69 years, was blind on both Eyes for a considerable time of Cataracts and was couch’d by the famous Occulist Dr. William Read, and brought to an extraordinary Sight, considering his age, in 10 days time...He has likewise lately restored to perfect sight Madam Blowe...notwithstanding she is 80 years of

Age, after the Operation of Couching, she can see to thread a Needle, and desires also this to be Advertised.”(Read July 10-13, 1703, p. 2)

Read summarized his 1703 couchings: “...lately couch’d and brought to perfect Sight in London 1703 by Dr. William Read the Approved Occulist. Mrs. Mary Benning...aged 80...Mr. Scott Shoe-maker...aged 70, Ellen Jones...Mrs. Joanna Gampion...The said Dr. Read is to be advis’d with constantly at his House at the Black-a-moor’s Head in Shandon-Street Covent-Garden.”(Read Jan 17, 1704)

In March 1704, physician Sir Edmund King (c. 1630-1709) was so impressed when Read performed several charity cases of couching that he presented Read with a set of gold couching needles.(Read March 16-20, 1704)

In July 1704, he recounted the Oxford cataract cases performed by “Dr. William Read, Her Majesty’s Sworn Oculist in Ordinary.”(Read July 24-27, 1704)

In January 1705, “James and Mary Herbert, Son and Daughter of Mary Herbert Widdow...in Essex, were both born blind with Cataracts...Dr. William Read...restor’d them both to Sight...after Couching.”(Read Jan 12, 1705)

In 1705, he went to Worcester: “Dr. William Read, Her Majesty’s Oculist, having had great Success in the City of Worcester...especially in the Couching of one Michael Hall, aged 70, and Ed. Hickocks, aged 84...”(Read June 18-21, 1705).

By June 1705, after his trip to Worcester, we might suspect that Read had come into the possession of Banister’s translation of Guillemeau, because Read used a whole new language: “Dr. William Read...in the City of Worcester, in the Cure of all Maladies affecting the Eyes...Glaucoma, Hypochyma, Suffusion, Amaurosis...”(Read June 20, 1705). Read had never previously used these terms. Similarly, in December 1705, Read diagnosed “Gutta Serena, joyn’d with a Glaucoma” in a 54-year-old man named Jeremiah Puttiford of Hartfordshire, who had sustained right eye trauma (Read 1710, p. 3). After treating with medicines, Read diagnosed a “Glaucoma” which he attributed to a “viciated Crystalline Humour”(Read 1710, p. 6). Read knew that a glaucoma was more difficult to cure surgically than a cataract, but he nonetheless performed a “Manual Operation” with a “Couch Needle” and “the Patient recovered his full Sight.”(Read 1710, p. 7).

On May 24, 1705, while in London, Read “Couch’d on May the 24th, 1705, The Wife of Mr. Tho. Willis...”(Read July 5, 1705) She was 66 years old, and blind for 15 years. The cure was noticed at Oxford University, where she had family.(Read July 5, 1705)

On July 19, 1705, Read advertised that he had restored the sight of Ephraim Prince, of Derby, who had cataracts (Read July 19, 1705).

In August 1705, it was related that Read had been knighted by Queen Anne:

“Sir William Read gets nothing by his Honour, and Her Majesty gave him that Mark of Her Royal Favour in Consideration of his great Charity, in curing so many of Her Soldiers and Sailors Gratis.”(Read Aug 8-11, 1705)

In 1705, Read advertised additional couchings: "...Blind of Cataracts...lately received their Sight after the Operation of Couching by Sir William Read...Ann the Daughter of John Gimball...Edward Washbear of Chelsea College...Mrs. Joan Dyer of Wilton in Wiltshire, aged 70."(Read Oct 9-11, 1705) Later, a testimonial clarified that "Anne Gimball...was blind of Cataracts from my Birth, and continu'd so till I was Sixteen Years of Age...Sir William Read...couch'd, and brought me to Sight of both my Eyes..."(Read Nov 10-12, 1709)

In January 1706, Read reviewed those whom "he has lately Couch'd of Cataracts...Dr. Chamberlaine, Rector of Bedworth, Staffordshire, aged 70 years...Mrs. Pierce in Chelsea, aged 72, Mrs. Pedder, in Elephant Court...Mr. Oliver Cromwell, in Brewhouse-yard in the Strand, aged 93, Mr. Blows, next the Coach and Horse in Carnaby Street, aged 80, Mr. John Ovie...Westminster...Mrs. Benning...High Holborn, aged 76, Mrs. Hall, at Clerkenwell, aged 80...Thomas Ward, in Whitecross-street, aged 23...[Ward was] born Blind with Cataracts."(Read Jan 31-Feb 4, 1706)

In April 1706, "Sir William has lately Couch'd and Restor'd to sight John Ward, of Her Majesty's Ship the Triumph."(Read Apr 15-18, 1706)

In July 1706, Read published an ophthalmic volume with Hunton's translation of Guillemeau's treatise, an edited version of Banister's Breviary, and Read's own Practical Observations.(Arber 1906, vol. 3, p. 511)

Also in 1706, William Read was recommended as the best surgeon for couching cataracts by William Coward in his ophthalmic treatise entitled *Ophthalmiatria* (Hirschberg 1984, vol. 3, p. 358).

In June 1707, Read was leaving for Bath and Bristol. While at Exon, Read had restored to sight "the sister of Sir Edm[und] Prideaux Bar[one]t. After 9 years blindness of Cataracts, and attempted by a great professor to no effect." (Read June 10-12, 1707)

In February 1709, Read published a second edition of his treatise, with a slightly different title: "A Short but exact Account of all the Diseases incident to the Eyes...Also Practical Observations upon some extraordinary Diseases of the Eyes. By Sir William Read, Her Majesty's Oculist and Operator in the Eyes in Ordinary. The Second Edition, corrected." (Read Feb 7, 1709) He added no cases to the previous edition from 1706. Bibliographers have previously guessed that this edition might have been published in 1710, but it first appeared in 1709.

In October 1709, Read was experiencing competition from Roger Grant. Read published a testimonial from "John Younger of Cogs Hall in Essex, having been blind of a Cataract for 12 Years, and about 34 Years of Age: One Roger Grant, who professes himself, and sets up for a great Oculist, boldly attempted to couch my Eye in August, 1708; but having kept his Needle working in my Eye for Half an Hour at least...without any the least Success...afterwards...Sir William Read...in October, 1709, who couch'd me, and restor'd me to my perfect Sight in less than a Minute."(Read Oct 25, 1709)

In January 1710, Read announced the publication of “A Shoort but Exact Account of all the Diseases Incident to the Eyes...also Practical Observations upon some Extraordinary Diseases of the Eyes by Sir William Read...The Second Edition.”(Read Jan 5-7, 1710)

On August 22, 1710, Simon Harcourt was successfully couched for cataract by Read (Ebsworth 1897, vol. VIII, p. 822). Harcourt had been mocked by the Whigs for having “pink eyes” and being “blind” (Ebsworth 1897, vol. VIII, p. 822). Shortly after the couching, on September 9, 1710, Harcourt was reappointed to Attorney-General, a position he had previously resigned (Ebsworth 1897, vol. VIII, p. 822).

In May 1711, Read advertised that “Edward South...in Hertfordshire, was couch’d of a Catarack...by Sir William Read.”(Read, May 24-26, 1711)

In April 1711, Jonathan Swift wrote in a letter of “...an invitation at Sir William Read's; surely you have heard of him; he has been a mountebank, and is the queen's oculist. He makes admirable punch, and treats you in golden vessells.”(James 2013, p. 125)

In 1712, “Sir William Read...in the City of Norwich...that were reduc’d to an absolute Blindness by Cataracts, viz., the Lady Yellop, and Mr. Richard Carter...Mrs. Chapman, and Captain Brown’s Mother...have been by Sir William couch’d of Cataracts and restor’d to Sight; also Coll. Crofts, of both Eyes...in Suffolk, Captain Midhurst...in Suffolk; Mr. Burningham of Guillingham near Beckles...”(Read Oct 14-16, 1712)

In January 1715, “Sir William Read is sworn Oculist in Ordinary to his Majesty King George.”(Read Jan 8-15, 1715)

In March 1715, “Sir William Read...has also couch’d Mrs. Ann Farley of Cranly, of Cataracts in both Eyes”(Read March 12-15, 1715)

It was reported that “May 26 [of 1715]...Tuesday last...the same Day, Sir William Read, his Majesty’s Oculist in Chief, died at Rochester, he was the most expert of all those of his Profession.”(No author listed. May 24-26, 1715)

J. Brinsden. By 1703, Read’s brother (or perhaps brother-in-law), Mr. J. Brinsden, appeared in the records. Read left Brinsden in London to couch cataracts, while Read went to Cambridge and St. Edmund’s-Bury.(Read, Sep 16-20, 1703) In June 1707, Read left his brother in London “to give advice...couch cataracts” (Read June 10-12, 1707, p. 2). In September 1707, account books recorded “1707. 13 Sep[tember]. p[ai]d Mr. Brinsden oculist for couching Isabella Mannings eyes...[£]01 [s]00 [d]0”(Bickley 1903, p. 45). In 1708, “Mr. J. Brinsden, Oculist and Surgeon” restored the vision of Jane Evans’ son, who was 7 years old and had been “born Blind”(Brinsden Nov 25-27, 1708). In October 1708, “Sir Wm Read’s Brother Mr. Brinsden Oculist and Surgeon” advertised that he was practicing in London and had recently “Couch’d (and Restor’d to Sight)” several patients (Brinsden Oct. 13, 1708). In 1709, John Willot, a 63-year-old of London, who “was blind of my Left Eye 41 Years” was restored “to my Sight in less than a Minute” by “Mr. Brinsden, surgeon and oculist” (Brinsden Dec 1-3, 1709).

Lady Augustina Read. By 1709, Read had instructed his wife, Lady Augustina Read, (James 2013, p. 125) in performing cataract surgery: “Sir William Read, Her Majesty’s Oculist, ...has instructed the Lady Read to couch Cataracts...She has lately couch’d several that were born blind, and brought them to their Sight”. (Read Jan 19-21, 1709) In 1712, the ability of Read’s wife to couch cataracts was emphasized more in his advertisements. (Read Apr 26-29, 1712) After his death, Lady Read advertised that she had performed cataract couching after his death, including on one patient who was over sixty years of age. She stated in 1716 that she had 15 years of experience. (Read A, March 24, 1716)

James Molins (1674). James Molins, a student at St. Thomas’s Hospital from 1674 to 1677, did not mention cataract couching in his observations (Molins 1896, pp. 1-40).

Henry Hammilton (1677). Surgeon Matthew Mackaile of Aberdeen recorded the arrival of a Henry Hammilton, a mountebank who claimed to be more skillful than Mackaile:

“Henry Hammilton; who coming to Aberdeen in the end of May 1677, did twice or thrise appear upon his Stage...whilst, I was in the Countrey, at every time very directly reflecting upon me by deerying of mine...he by way of Inscription, designeth himself...Opithalmista...He affirmeth that he hath cured Children of Cataracts; by him called Catherick...” (Mackaile 1677, np)

One Henry Hamilton, “chirurgion, apothecary, and burgess”, took an apprentice in Edinburgh in 1699 (Wallis 1988, p. 258). Henry Hamilton was a surgeon and lecturer in Edinburgh in 1711. (Wallis 1988, p. 258)

Robert Bradford (1678). “8 Mar., 1678-9. — Mr. Robert Bradford licensed to erect a stage in the usual place to sell medicine drugs and perform chirugecall cures.” in Norwich (Rye 1905, p. 162)

On May 28, 1679, Sir Thomas Browne of Norwich recorded: “The ignorance of chirurgions, as to chirurgecall operations, creates so many mountebanck and stage quacksalvers. Heere hath been a mountebanck these 2 moneths, who cutts for wrye necks, coucheth cataracts, cures hare lipps, &c. wherin no chirurgion of this place being versed, hee hath had a great deal of employment, to the shame of our chirurgions.” (Browne 1836, vol. 1, p. 245)

“18 Dec, 1680. — James Harris, servant to Mr. Robert Bradford, practitioner in physick and chirurgery, hath leave to erect a booth of deals of 60 ft. long and 30 ft. broad in the Market Place, to exercise dancing of the ropes during the twelve days of Christmas vacation, repairing and making good all breaches and damages done to the pavings of the streets and to the well.” (Rye 1905, p. 160)

Robert Bradford was licensed as a surgeon in London on January 25, 1700 (Wallis 1988, p. 70).

Mr. Elmy (1679). Elmy advertised in 1682:

“Mr. Elmy Operator...He hath cured (since St. George’s day 1679) near 300 persons of their Diseases...He undertakes the curing of most Distempers incident to the

Eyes, as Ophthalmia's, Cataracts, in their beginning; and the staying of Rheums falling upon the Eyes..." (Elmy June 1, 1682)

John Stobo (1680). John Stobo earned an M.A. degree from the University of Glasgow in 1666, and entered into the Faculty of Physicians and Surgeons of Glasgow in 1680 (Duncan 1896, p. 244). In June 1693, the Scottish Mercury published an advertisement of "Mr. John Stobo, student in astrolog-physick", who resided in Kirkintilloch, "cures infallibly all diseases, couches cataracts, amputates, &c." (Chambers 1874, vol. 3, p. 85)

William Davis (1681). William Davis of Bristol was listed as an "oculist" in a marriage license bond of March 26, 1681, from Bristol (Jonathan Barry, University of Exeter, personal communication, 2019).

Robert Baker (1681). In 1681, Baker advertised in London: "Robert Baker (Oculist and Chyrurgeon)...the same that Cured the Right Honourable Sir Harbotle Grimstone, Master of the Roles" (Baker Sep. 5, 1681). The patient was Sir Harbottle Grimston, second baronet (1603–1685).

Richard Harness (1681). In 1705, Harness announced:

"Dr. Richard Harness, Oculist and Manual Operator...is once more come to the City of Exon..." (Harness Sep 18-20, 1705).

On May 4, 1711, he advertised in the Exeter Post-Boy: "Dr. Richard Harness, Chyrurgeon, Oculist and Manual Operator, in above 30 years' Travels" was practicing in St. Mary, Newton-Abbot, Crediton, and Exon. Also, "His Pills are sold only by Mrs. Elizabeth May..." (Amery 1917, p. 245)

John Butler (1682). Butler advertised in a handbill of 1682:

"In the Strand...where a Barber's Pole hangs out, Liveth John Butler, An Expert Operator and Oculist...He Cureth Blindness by Couching of Cataracts, He taketh Specks off the Eyes, and Cureth Defluxions of Rheums in the Eyes...Deafness...Bursten Bellies...Corns..." (Butler 1682)

John Church (1682). The subtitle of the 1682 pamphlet of John Church (d. 1712) stated:

"[I]n all my travels with Salvator Winter, and many years after with that famous phisitian and chirurgeon John Ponteus...my house to them [the poor] was as free as an hospital; the like never hath been performed but by your friend and neighbor John Church." (Church 1682)

Church claimed in 1682 "I couch'd Cataract's for Richard Smart a Hempdresser living in Cow lane near Smithfield...I cured Margaret Carter living within three miles of Bracklie Buckingham-shire, who had been Blind for the space of 15 years." (Church 1682, p. 2). He mentioned "Phisitians and Chirurgions that profess themselves to be very skillful in Occulism, or griefs of the Eyes." (Church 1682, p. 2)

The will of John Church "oculist" of Wootton, Oxfordshire was registered in 1712 (Church 1712).

John Sare (1682) and family. In 1690, John Sare advertised in Edinburgh that “I have been now about eight years in this Kingdom”, and was capable of “couching Cataracts, having couched above 100 in this Kingdom”. He had couched above 100 people total. He also removed teeth, did surgery for “Hair Lips”, breast cancer, “mortified legs”, “taps for the Timpany, extracteth the stone out of the Bladder”. His wife cured the diseases of women. They lived at the Leithewynd in Edinburgh (Paterson 1690, pp. 8-9)

The name John Sare appears in licenses as a medic and surgeon in 1666 in England, and again in 1697, specifically in Walsall, Staffordshire (Wallis 1988, p. 526).

In 1735, “Dr. Sare” advertised in Stamford in 1735 that he “couches Cataracts” and had cured 100 blind people “within theses few Years past about Stamford”. We might believe he was either John Sare, or a relation, because he noted “He has restor’d many hundreds to Sight in Scotland, and many Parts of England...having made the Eyes his Study and Practice for above 45 Years.” He also cured “Hair Lips”.(Sare Oct 2, 1735). He was still practicing in Stamford in 1736 and 1742.

Table 4. Cataract Surgeons and Oculists in Ireland (1684).

Period.	Surgeons.
1680-99	William Read (‘84); Richard Reidman (‘87); John T. Woolhouse (‘89).
1700-19	Mr. Cawood (‘00); Thomas Clark (‘16).
1720-39	Edward Green Jr. (‘25); John Taylor (‘30); Andreas Larini (‘31); Mr. Tippear (‘32); Postlewait (‘33); George Key (‘38)
1740-59	Sylvester O’Halloran (‘49), William Stork (‘53), Cusick Roney (‘53), James Dillon (‘53)
1760-99	Edward Green III (‘60); Joseph Rouviere (‘65); Ornibell Toscano (‘66); George Cleghorn (‘67); Joseph Hilmer (‘69); Caspar Conti, Frederick W. Jericho (‘72); Dr. Jackson (‘75); Dr. Lancaster, Lewis de Bello, Christian Krebs (‘76); George Borthwick, Chares A. Goergslenner (‘93).

Stephen Draper (1686). This 1686 handbill of Stephen Draper is found in the British Library Collection of 185 Advertisements (shelfmark C112f9[125]), and also in Early English Books Online, but the treatments appear nonsurgical:

“I have Cured many of sad Accidents in their Eyes as Shells, Sp[o]ts, Skins, Pearls, Films, Clouds, Ulcers, and some that have been blind many years. There is above a hundred distempers of the Eys, which a good Occulist might prevent, by strengthening the Optick Nerves ...

The Professor hereof Stephen Draper, the approved Physician and Man-Midwife, of nine years experience, in the most Famous and Illustrious Art of Man-Midwifery: such as have

occasion may converse with him at his House next door but one to the Kings Head on great Towerhill, London...Stephani Draper, M. D. And Man-midwife...A.D. MDCLXXXVI [1686].”

Richard Reidman (1686). The oculist Richard Reidman has generally been assumed to be the same as “Dr. Reid” (see below; Craven, 1893, vol. 3, p. 116). They had similar names, and both were reported to travel with “blackmores”, but their identity is uncertain because they were both in different parts of Scotland in January 1687.

From January 3 to March 2, 1687, Reidman practiced in the Orkney Islands, having just arrived from Walls in the Shetland Islands (Brown 1898, pp. 42-3). A small handbill of Reidman from the Orkney Islands advertised “...walking up the Slope Rope, with the Slack Rope by the famous Barbarian, 7 Storie high, with his pumps on,...there will be likewise Antique Dances by two Blackmores as they are performed in their own countrie.”(Craven 1893, vol. 3, p. 116-7)

A larger handbill available to a chronicler of Orkney history was summarized (Craven 1893, vol. 3, pp. 116-7), and the text presented matches a handbill currently at the University of Aberdeen, which would suggest this handbill also dates from about 1687 (Reidman 1687). The latter reads:

“By His Majestie’s Authority...Mr. Richard Reidman, a Legal and approved Physician, Oculist, and Chirurgical Operator who had his Education by travelling with many Famous and Eminent Physicians, with whom for sometime he was Partner; and since, hath made an large demonstration of his Worth and Ability in all or most part of the three Kingdoms of Scotland, England and Ireland where he hath twice travelled, and is also approved on by his Majesties Physicians and Chyrurgians...He hath cut and cured many large deformed single and double Hare Lips, Wry Necks, took off several mortified Leggs and Armes. He extracted many large and dangerous Stons out of the Bladder and Kidneys...Henry Sharp living in Drumfermling being troubled with a Fistula on his Cheek for the space of 5 years, and I cut him upon my Stage at Kirkcaldy and I shewed him perfectly well in 8 days. Skipper Wilson his Son being troubled with a very large Fistula in his left Cheek, and had made use of very many Chyrurgians, and could get none for it till he came to me; and he had been afflicted with it for the space of 11 years, and cured him in 10 dyas, living...in Glasgow...Andrew Colvill Son to John Colvill Cordiner in Clinkhill at Fordial Henderson being 4 years blind, I couched and cured him in a fortnight...I couched one William Thomson who was aged 84 years, and been blind for the space of eighteen years, and shewed him well in eight days upon my publick Stage at Beeth. Mr. Matthew Leisk received a wound upon the horn cote [cornea] of his left Eye, which occasioned such a great Flux of Humors for to fall upon both his Eyes, that he was in danger of loosing the sight of both, he being one of the Gentlemen belonging to the Lord Ross Troop, and I cured him in eight days time at Beeth. Isobel Rone, being afflicted with such a great defluction of Rheum in her Eyes, that it did occasion such large Pearles for to grow upon her Eyes, that it deprived her of her sight for the space of two years, and (through the Blessing of GOD) I perfectly restored her to sight in three weeks; she liveth at Gadsmill near to Burnt-Island...John Panton Son to Henry Panton Weaver in Kirkcaldie having lost

the sight of one of his Eyes by a great defluction of Rheum, I recovered it again, and in a fortnights time he could see to threed a Needle with the same eye...He likewise cures all Diseases of the Eyes, coutheth Cataracks, cureth Weens, Wry-Necks, Cancers, Hare-Lips...he sells...the Antidote or great Cordial called Orvietan, for any sort of Poyson...He is to be spoken with in his Lodging...and upon his Stage on Munday, Wednesday and Fryday, at two in the After-noon: where the Nobility and Gentry shall be kindly entertained with variety of divertissements, and those that are really Poor shall be cured for GODS sake..."

Reidman might have been one of the first cataract surgeons in Ireland.

Dr. Reid and Salvator Moscow (1686). John Lauder of Fountainhall recorded:

"In April 1686, came to Edinburgh 2 charlatans with recommendations from his Majesty (so that the Colledge of Physitians could not stop them,) called Doctor Reid and Salvator Moscow, from Sicily; who erected stages, and in their printed papers did brag of admirable cures, as 64 blind persons restored to sight who had never seen from their birth, (which blasphemie out did our Savior's recall miracles, for we read not that he cured so many borne blind)..."(Lauder 1837, vol. 1, p. 248)

It is not clear that Reid and Salvator Moscow were together. Given that Salvator Winter (of Naples) sometimes went as Salvator Winter Moretto, we might wonder if Moscow was a mistranscription of Moretto.

In January 1687, "Reid, a mountebank" was still in Edinburgh. He converted to Catholicism along with one of his "blackamoors".(Chambers vol. 2, p. 487). Next, Reid filed litigation against a couple "for stealing away from him a little girl called the Tumbling Lassie, who danced upon his stage; she danced in all shapes, and, to make her supple, he daily oiled all her joints; and he claimed damages, and produced a contract, where he had bought her from her mother for £30 Scots."(Chambers, vol. 2, p. 487) However, physicians testified that "the employment of tumbling would bruise all her bowels and kill her; and her joints were now grown stiff, and she declined to return." The chancellor favored Reid because of his religion, but the mountebank lost his case. (Chambers, vol. 2, p. 487).

Thomas Clark (1683). Thomas Clark was an oculist who was active in England (and sometimes Ireland) between 1683 and 1726 (Clark Nov 19, 1726). Some of his claims cannot be independently verified.

The earliest evidence of his ophthalmic activity comes from the royal appointment of Thomas Clarke as "Surgeon and Oculist in Ordinary" on September 15, 1683 (bucholz Ci-Co) under Charles II. His advertisements provide some hints about his background. Our oculist called himself "Dr. Clark" and a "Legal Physician"(Clark Apr 6, 1695) and was said to have an M.D. degree (James 2013, pp. 85-7; James 1930). He also made "a Call into the West of England" in 1699 (Clark, Aug 22-24, 1699), and announced his visit to Bristol in the Bristol Postboy of April 16, 1715 (Barry personal communication).

Therefore, he may be the Thomas Clark who shows up in educational and licensing records, sometimes in relation to the west of England. The Archbishop of Canterbury

granted a medical license in 1670 to Thomas Clarke, jun[ior]. of Okehampton, Devon (No author “Lambeth” 2017). There was a Thomas Clarke, Anglus, who graduated from Leyden University in 1664 at age 28 (i.e. born about 1636) (James 2013, pp. 85-7), a Thomas Clarke of Emmanuel College, Cambridge in 1658 (James 2013, pp. 85-7), a Thomas Clarke, graduate of Oxon, admitted to the College of Physicians in 1656 (James 1930).

Clark advertised throughout his career that he had been the oculist not only of Charles II (d. 1685), but also of James II, who was exiled from England in 1688.

Clark advertised in 1697 that he had practiced in London for 10 years (i.e. since 1687) (Clark Sep 4-7, 1697). When Clark announced his return to London in 1695, he said he had been answering “a Call out of this Nation” to treat some persons of quality. (Clark Apr 6, 1695) For decades, Clark maintained that he had restored to sight the Lady Bellasyse in front of James II, (Clark Apr 6, 1695) who left England in 1688. Born Susan Armine, the Lady Bellasyse (d. 1713) was a romantic interest of James II while he was still the Duke of York (Frazer 1879-8, p. 56). A woodcut said to date from 1688 illustrating Tobit recovering his sight is dedicated “To Thomas Clarck of St. Andrews Holborn M.D. sworn Physitian Oculist in Ordinary to King Charles ye 2d & to King James ye 2d. In Whose presence he restored a Lady 15 years blind to her sight in an instant.” (James 1930; James 2013) Clark advertised this claim of restoring the sight of the “Lady Bellasis” as early as 1695 (Clark Apr 6, 1695). In 1705, he specified her disorder as cataract: “Dr. Clark...instantly restor’d the Lady Bellasis to sight, 15 years blind with Cataracts”. (Clark Nov 15-17, 1705) Biographies of the Lady Bellasyse do not record either blindness for 15 years or the sudden recovery of vision (Bellasyse ODNB; Frazer 1879-88, pp. 56).

If true, the claim of instant recovery of sight raises the question of whether Clark actually couched Lady Bellasyse. A 1699 advertisement proclaimed his “Skill in the Opticks...particularly in Couching Cataracts” (Clark Aug 22-24, 1699). As late as 1722, he claimed that “The Doctor, and also his Son, Coucheth cataracts.” (Clark Aug 18, 1722) The rarity with which he mentioned couching cataracts, as opposed to his medical treatments, suggests that he did not perform the procedure frequently.

Throughout his career he also advertised an apparently medical “Ophthalmic Secret” for Gutta Serena, in which the eyes appear normal. He claimed that in 1704 he had restored the vision of Queen Anne’s royal painter Signor Vario, who had this disorder along with headache. Apparently, Clark used medical means. He began advertising this cure of her Majesty’s Famous Painter Seignior Verio from Gutta Serena as early as 1705 (Clark Nov 15-17, 1705). He also noted in 1718 that he had treated “the famous Painter Signior Vario, 7 Years blind”. (Clark May 3-6, 1718) Antonio Verrio (c. 1639–1707) of Italy (Barron 2008), therefore, would have had visual difficulties since the age of about 58 in 1697, and would have been treated at about age 65. Verrio was painting the interior of the Hampton Court Palace from 1701 onwards (Barron 2008). The work was criticized for the poor use of color, and his biographer noted that the works were finished in the middle of 1704, when he was “almost completely blind” (Barron 2008). Still, Verrio’s paintings demonstrate that he must have had at least some vision through early 1705 (Brett 2009, p. 4). Verrio was awarded a pension for life in 1705 when his eyesight failed (Brett 2009, p. 4). His biographers did not record any return of Verrio’s vision (Barron 2008; Brett 2009, p. 4).

As Clark's claims to have restored the vision of Lady Bellasyse and the painter Antonio Verrio cannot be independently verified, it seems likely that he exaggerated his successes.

There was a large gap in Clark's London advertisements between 1707 and 1718, when he was probably out of town (Clark April 24-26, 1707; Clark May 3-6, 1718). As noted above, in 1715, he visited Bristol. In 1716, "Dr. T. Clark" advertised that he had cured over 70 blind persons in Dublin in 5 months (Kelly 2008, p. 75). Thus, Clark was one of the early oculist pioneers in Ireland.

One of the mysteries regarding Clark has been his apparent longevity. If he was really born in 1636, and served King Charles II, then he would have been 90 years old by the time of his advertisement in 1726 (Clark Nov 19, 1726). His 1722 advertisement indicating that his son had joined him in practice and that they both couched cataracts (Clark Aug 18, 1722) might help to explain this longevity. Perhaps his son had taken the lead role, and Clark was just a figurehead for the practice at this point. We do not know if the Francis Clerk who advertised in Edinburgh in 1710 was part of this family.

As with other oculists of the era, Clark couched for congenital cataracts. He advertised as early as 1695 that he had "brought to sight the 2 Sons of one Mr. Peter Walter, a Schoolmaster...who were born blind with Cataracts." (Clark Apr 6, 1695) In about 1726, Benedict Duddell treated a 7-year-old girl who had been "born blind": "Her Eyes had been needled twice by Dr. Clark...but without success." (Duddell 1729, p. 174) Duddell attempted to perform couching one more time, but was apparently not successful himself (Duddell 1729, pp. 174-6).

Mrs. Dimmock (1686). One Mrs. Dimmock, "oculist", was consulted by Newcome in 1686 when Lady Ivy was unavailable (Newcome 1852, vol. 2, p. 262).

Thomas Ellis (1688). In 1735, it was recorded that Thomas Ellis had died at the age of 92. He had been the Groom of the Bed Chamber and Occulist to King James II (No author "historical register" 1735, p. 13), who was exiled in 1688.

William Cowper (1691). William Cowper (1666/7-1710) was a London surgeon. He apprenticed in London first with surgeon William Bignall in 1681, and then with John Fletcher (Kornell ODNB, 2008). Cowper was admitted to the Company of Barber-Surgeons in 1691, and practiced in London (Kornell ODNB, 2008).

Cowper seemed to have personal experience with cataract couching by 1698, when he wrote in the "Eleventh Table" of his anatomy treatise:

"...of the Couching of Cataracts...in Practising that Operation, the Puncture thro[ugh] the Adnata, ought to be at a greater Distance from the Pupilla, than Authors commonly direct; and that a round Needle is to be preferr'd; for the edges of the Needle else are lyable to wound the Blood-Vessels of the Choroeid Tunick largely, and an Extravasation of Blood happens between that Tunick, and the Sclerotis; which may be of ill consequence to the Patient." (Cowper 1698, np)

In this table, Cowper also discussed the operation for lacrimal fistula, and cited the views of “Dr. [William] Briggs” on vitreous anatomy. Cowper was plagued by accusations that the drawings in this 1698 anatomy text were plagiarized from a volume by Govard Bidloo, a Dutch author (Kornell ODNB, 2008).

Roger Gatley (1690) and the Green Family. Roger Gatley of London was an itinerant oculist, active by 1690. He advertised in London 1703:

“At the Sign of the Occulist in St. Johns-lane, liveth Dr. Gatlee, Occulist, who by his Travels and Experience, hath acquired the knowledge of curing most Diseases of the Eyes; and Couches Cataracts, tho they have been blind 20 years he restores them to sight in less than 5 minutes. No Cure no Money.”(Gatlee March 25, 1703)

Roger Gatlee (or Gaslee, Gatley) was licensed as a medic and surgeon at St. James, Clerkenwell, Middlesex on July 5, 1708 (Wallis 1988, p. 222).

. **Edward Green.** Previously, Gatley had taken his stage to Yorkshire, where on November 22, 1690, he took on as an apprentice Edward Green of Yorkshire for seven years (Burn 1772, 68; Robertson 1980, p. 569). This Edward Green (d. 1729) went on to become the patriarch of at least 3 generations of itinerant oculists and mountebanks (Thin 1938, p. 139).

In 1695, Green complained to the Justices of the Peace in Middlesex that the apprenticeship did not involve surgical instruction (Fessler 1950, p. 1112). Rather, Gatley “compelled him to practice the art and employment of rope-dancing, tumbling, and acting as a jack-pudding, on a mountebank’s stage, and in booths, in fairs and markets; and that the said Gatley also had at several times immoderately beat and misused his said apprentice”. The Justices permitted Green to be relieved of his obligations as an apprentice (Robertson 1908, p. 569).

Green seems to have gone into business for himself very shortly thereafter. One of Green’s handbills noted that he “had a stage erected in 1698 in the Famous University of Oxford.” This handbill was found in the papers of John Hornby (d. 1708) who lived in Newton-with-Scales, Lancashire. The handbill therefore is dated to between 1698 and 1708. The handbill advertised: “...to this place [Preston or Kirkham] is come Edward Green of Doncaster, Operator and Oculist,” who treated “Cancers, Hairlips, Strangury, Spitting of Blood, Ague of all sorts, Dropsie, Greensickness, Scald-heads, Leprosie, Bloody-Flux, Fistulass French Pox, Kings Evill, Scurvy, etc.” (Fessler 1950, p. 1112).

On July 26, 1699, legal proceedings at Doncaster were held against “Dr. Greene” and his servants when it was alleged that Greene had threatened to “strike the first man” who damaged his exhibitions (Hobson 1877, p. 287). At least one man was struck with a spade, and “the doctor, in violent language, declared that he would go upon the stage, whether the mayor would let him or not.”(Hobson 1877, p. 287) Henry Bracken later called him “the famous Green of Doncaster a pretty good Stage-Orator in his Time”(Bracken 1737, p. 216).

In August 1700, when his son was baptized, Edward Greene was described as “Occulist & Operator”.(William Greene, Aug 13, 1700) Also, on November 18, 1701, he was

described as “Edward Greene, oculist and operator” when another son was baptized (Hobson 1877, p. 287). A series of children of Edward Green, oculist and operator, were baptized (and some buried) in Doncaster, in the first decade of the 1700s.

By 1710, Green was interested in a more conventional medical practice, when he advertised:

“Dr.Green of Doncaster, the North Oculist, having left off his Public Business of keeping stages, is to be advised with at his House [at] the Halfen Cross in Doncaster, where he will be constantly at home to attend all that shall repair to him for advice in the Eyes...Note, He has restored to sight R[o]b[er]t Randerson of Long Eliff, near Selby, Blind 5 Years.”(Green July 20-22, 1710)

On Jan 28, 1722/3, “Doctor Green of Doncaster” contracted with the overseer of the poor of Poulton-le-Fylde parish, near Blackpool, to receive two guineas (one immediately, and one after the treatment) to cure John Eves of a fistula. The contract was signed “Edward Green” (Fessler 1950, p. 1112).

On January 18, 1725-6, “Mr. Edward Green” was selected as a capital burgess.

The diary of John Hobson recorded on March 22, 1728/9 [1729 by the New Style Calendar] that “Dr. Green, the mountebank of Doncaster” had died (Hobson 1877, p. 287) On April 17, 1729, “Mr. Edward Green lately deceased” was replaced as burgess (Hobson 1877, p. 287).

Edward Green [the younger]. Edward Green, the younger, (d. 1745) practiced as a mountebank as his father did, but extended his travels into Scotland and Ireland. An oculist named Edward Green visited Dublin several times in the late 1720s (Kelly 2008, p. 75). Based on a later report from Ireland, this was probably the son, also named Edward Green (d. 1745).

Even if the father had renounced the mountebank method of practice, his son carried on the tradition of his father’s younger days. On December 30, 1725, “Doctor Green, younger of Doncaster” advertised in the Edinburgh Evening Courant that his “menial servant and tumbler” Henry Lewis had escaped with a week’s wages paid in advance “with design to get himself furnished with a play-fool, and to set himself up for a doctor experienced in the practice of physick and chirurgery.”(Chambers vol. 3, pp. 261-2)

On December 7, 1728, Edward Green advertised in the Evening Courant:

“...Dr. Edward Green, the famous oculist, is lately returned to the city of Edinburgh...he now can perfectly cure stammering or hesitation of speech...those that labour under this inconvenience, or have any impediment in the eyes or otherwise, are desired to make immediate application to the Doctor, he resolving not to stay in Edinburgh beyond a month.”(Thin 1938, p. 140)

According to Edinburgh sources, the Greens traveled with rope dancers and tumblers, and would set up a stage in Edinburgh, or in surrounding towns (Thin 1938, p. 140). The Green doctors would ask the audience to throw a handkerchief containing one or

two shillings, and the handkerchief would generally be returned with medicine, but a silver cup might be returned in the handkerchief, to encourage the patients to essentially gamble (Thin 1938, p. 140).

In May 1731, Green applied for a diploma as a doctor of medicine from King's College, Aberdeen, with the assurance that he would give up his stage and "practice medicine in a regular way". However, Green continued to practice on a stage in violation of his assurances, and the college insisted that he give up his stage.(Chambers, v. 3, p. 262)

According to clerical records, in 1726 and again in 1732, a mountebank operated on the blind at Keith (Scotland). For the poor blind man of Boharm in 1732, the Synod of Moray raised 5£ 6s. (McPherson 1941, p. 133) These visits correspond reasonably well with Green's Scottish tours.

On Jan. 21, 1733-4, "Mr. Edward Green" was admitted to his freedom (Hobson 1877, p. 287).

"Dr. Edward Green" arrived in the Edinburgh area in December 1734, intending to stay for about one month, which was the time required to cure Mr. James Hay of blindness.(Green December 12, 1734, p. 4) Green announced homes, a hall, and a post office where he could be located.(Green December 12, 1734, p. 4)

In an undated trade card from the National Maritime Museum (which probably dates from about this time, based on the correspondence of towns near Edinburgh he visited with the 1734 advertisement) he called himself "Dr. Edward Green, the great and famous Oculist" (Green c. 1730s). He indicated "He has had great and Wonderful Success through the North of Scotland." (Green c. 1730s) He also confirmed that "...he has now left off his publick Business upon the Stage, and designs only to practice in his own Lodging..."(Green c. 1730s) He would make house calls for "noblemen, Gentlemen", but was still willing to "assist the poorest or meanest".(Green c. 1730s) The card was adorned with a figure of a patient being couched in the right eye with the oculist's left hand by a temporal approach.(Green c. 1730s) The nonoperative eye was covered with sash. The motto was "*Quid Hic Nobis Lumine Sati*us".(What more light is here for us?) (Green c. 1730s)

In 1737, Henry Bracken recounted the story of Henry Dumball of Wigan, who lost the sight of both eyes from separate traumas. Bracken considered Dumball's condition incurable, but Dumball applied to this Mr. Green, who treated the eye with the needle, without success, but without making the condition worse either (Bracken 1737, pp. 215-7). The daughter of Edward Green, an "Oculist", was baptized at Doncaster on May 8, 1738.(Green May 8, 1738)

It was probably in about 1740 when a fourteen-year-old who went by the name of Charles Hamilton (according to a later deposition):

"in Northumberland entered into the service of Doctor Edward Green, a Mountebank and Continued with him between two and three years, & then entered into the service of Doctor Finly Green & Continued with him near a twelve month and then set up for a Quack doctor herself".(Baker 1959)

Hamilton got married to a woman in 1746, but it was eventually discovered that Hamilton was really a woman named Mary Hamilton, who had decided to impersonate a man. Hamilton was tried and convicted of fraud, and sentenced to be whipped (Baker 1959).

Edward Green, described as a doctor of physick and gentleman, was buried June 1, 1745, and his will was proved at York in April 1746 (Hobson 1877, p. 287).

Edward Green [III]. The third generation of the family, “Dr. Edward Green, Surgeon and Oculist”, was curing “Hair-lips” in Stockton by 1758.(Green March 25, 1758)

Green advertised in Aberdeen in 1759 that:

“Doctor Edward Green, Practitioner in Physick, Surgeon, and Oculist, eldest Son to the late celebrated Dr. Edward Green, that travelled through North-Britain thirty three Years ago...inherits his Father’s Knowledge in the Healing Art...also the great Advantages he has acquired abroad, in his Majesty’s Sea-Service, as well as at several Hospitals.”

The bills distributed from his stage described cures he had performed in Scotland. He had just displayed on his stage a 12-year-old girl he cured of “a very lare Hare-Lip”.(Green October 9, 1759, p. 4)

Green advertised in the Belfast Newsletter of October 3, 1760 (Greene 2019):

“Dr. Edward Green from Doncaster, Yorkshire, practitioner in physick, surgeon, and oculist, only son of the famous Dr. Green that travelled through this kingdom thirty-five years ago [i.e. 1725], is just arrived from Scotland, where he had stages...as well as in England and Wales...He cuts and closes the hair-lip...wens, cancerated breast or lips...he couches the cataract, giving sight in two minutes...His method of practice is different from all other itinerant surgeons or oculists who only stay eight or ten days in a place, and leaves their patients in a state of uneasiness that renders them incurable. He intends continuing three months...at his lodgings”(Green October 3, 1760)

On July 6, 1782, the burial was held in Yorkshire for “Samuel Sanders, a tumbling boy belonging to Dr. Green”.(Hobson 1877, p. 287) In the Mercury of Glasgow on June 17, 1784, we find notice that “Dr. Edward Green, of the City of Durham, is come to Glasgow...The Dr. performs all operations on the following terms of no cure no pay.”(McLean 1912)

Dr. Green. A later Dr. Green advertised. It is unclear if this is Edward Green III, or a different member of the family.

“Dr. Green, Physician and Oculist, from London, but last from Portsmouth” advertised in Southampton in January 1777. He “restores sight to those who have cataracts, though of twenty years standing, and cures all other complaints of the eyes and eye-lids”.

In February 1791, it was announced that “Dr. Green, oculist” had died in Worcester (No author, Feb 24, 1791, p. 2).

William Green. The oculist patriarch Edward Green (d. 1728/9) had a son named William in 1700 who died the next year (Green Aug 13, 1700; Green Nov 1701). But this original Edward Green (d. 1728/9), oculist and operator of Doncaster, had a second son named William Green in 1709 (Green Sep 22, 1709).

On November 3, 1733, a 70-year-old of the County of Durharn named Ann Todd reported in the Newcastle Courant that thanks to the treatment of “that eminent Oculist, Dr. W[ilia]m. Green”, she had “sufficient Sight to guide my self, who have been Blind for some Years”, but that if she had punctually observed his directions, she would see even more (Green November 1733).

In 1734, benefactor Robert Thomlinson (1668–1748) of Newcastle began to have trouble with his eyes (Shand 1885, p. 69). He paid one Mrs. Knowles one guinea for eye-water. He consulted Dr. Mead and Sir Hans Sloane about his eyes in London in 1734 (Adamson 1885, p. 83). In January of 1735/6, as his eyesight was failing, Thomlinson made arrangements to donate his books and establish a library at Newcastle (Thomlinson p. 70). On August 17, 1736 “Dr. Green” was paid £10 10s., with the diary entry “I was couched ye 17th July.”(Shand 1885, p. 69) It is likely that this Dr. Green was William Green of Newcastle. About this time, Thomlinson contributed to St. Edmund’s Hall, Oxford (Shand 1885, p. 69). The couching was unsuccessful, and Thomlinson was subsequently described as completely blind (Adamson 1885, p. 83).

Lewis Gerard (1694). On July 9, 1694, a pass was issued “for Lewis Girard, doctor of physick and oculist...to go to Harwich or Gravesend, and there to pass over into France by way of Holland or Flanders.”(Hardy 1906, p. 216)

On March 15, 1695, was issued a “Warrant for Lewis Gerard, doctor of physick and oculist, with one servant, to come from France into England and continue here for six months, for a particular operation that is to be performed by him.”(Hardy 1906, p. 404).

Indeed, “Mr. Gerrard”, described as a French oculist, went sent from Holland to London to treat the eyes of Ralph Montagu (1638-1709) (Boucher 2013, p. 58).

“Lewis Girard” was made a denizen of England by King William III in September 1698 (Portal 1911, p. 291).

In June 1701, we find advertised “Monsieur Girard, Oculist, having been sent for by Express from Paris to England, to Couch the Cataract of the Eyes of a Lady of Quality in Kent, of which she was blind; Which Operation he performed with the desired Success, and is now at London.”(Girard June 5, 1701, p. 2)

In March 1704, William Read advertised that “Monsieur Gerrald, the French Oculist” had attempted to couch the cataracts of George Westland, who was born blind, but as Gerrald was unsuccessful, Read restored Westland’s sight in one minute (Read March 10, 1704).

Gerard evidently returned to France after 1704.

“Mr. Gerard, an eminent Occulist” attempted to couch a cataract in a priest just before 1708. On January 1, 1708, when the priest was 60 years old, the lens had

subluxed into the anterior chamber, and was extracted in Paris by Petit in the presence of M. Mery, M. Remy, and Charles St. Yves (O'Halloran 1750, p. 20). The patient was able to “read small Print, by the help of Spectacles” (O'Halloran 1750, p. 21).

William Briggs (1697). Physician William Briggs was sometimes called an oculist due to his interest in medical treatments of the eyes. Still, the mainstream physicians viewed the itinerants as the experts in eye surgery. Briggs observed Read perform a congenital cataract surgery in 1697.

William Rowght (1697). William Rowght, surgeon, (d. 1740) was licensed by the Bishop of London in 1697 (Penfold 2019; Marris 1988, p. 515). He took the “Oath of Supremacy” in 1706 (Bensusan-Butt 2010, vol. 2, p. 177). In the 1730s, Rowght practiced in northeast Essex. Mr. William Rowght, surgeon, was in practice in Colchester by 1736 (Bensusan-Butt 2010, vol. 2, p. 176). He treated the 10-year-old daughter of Lawrence and Elizabeth Fosgate, and restored the vision in an eye which had developed a cataract following an attack of smallpox, according to the Ipswich Journal of April 19, 1740 (Bensusan-Butt 2010, vol. 2, p. 177). His will was proved January 1, 1740/41 (Penfold 2019).

J.A.K. (1700). In a handbill estimated to be from 1700, one J. A. K. advertised as “The Muscovy Operator” in West Smithfield, and as “the Muscovy Occulist, Stone, and Rupture Master”, who had practiced “First in Muscovy, next into Germany, and afterwards...came into Turkey”, where he learned many medical secrets. He noted “if any Person be troubled with Films, or Cataracts in the Eyes, if the Pupilla or Apple of the Eye be not hurt, I can restore them their sight presently...”(J.A.K. 1700)

Peter Maris (1700). Several advertisements of London physician Peter Maris, thought to date from about 1700, have survived. One is in the British Library Collection of 231 Advertisements (Shelfmark 551A32[28], Maris 1700a):

“It is well known that in this Kingdom is Living an Experienc’d and able Physitian Dr. Peter Maris...in his Travels through five Kingdoms...and many Cures here in London...I Have often with good success remov’d these Distempers...As also all distempers in the Eyes, all violent Rhumes, and several sorts of Cataracts, which I help in a quarter of an hour & restore Sight in a moment...before you come under my hands, I will give satisfaction, what miraculous cures I have done in the Eyes here in London...”

Maris lodged “in High-Holborn”(Maris 1700a). He also advertised “an Incomparable Eye-Water, for Curing all Distempers in the Eyes”, available for Five Shillings per bottle (Maris 1700b). Women could also speak to his wife about “Womans Distempers” (Maris 1700b).

Perhaps Maris was from Germany, because a practitioner named Elizabeth Maris who practiced “near Holbourn Barrs” advertised that she was the mother of a “High German Doctor”(Quacks of Old London, p. 158)

H. Hippen (1700). The handbills of H. Hippen are thought to date from about 1700. One is kept in the British Library Collection of 231 Advertisements (shelfmark 551A32[46], Hippen 1700). The transcription was kindly provided by Roberta Mullini:

“At the Crown and Golden-Ball on London-Bridge...Liveth H. Hippen. Who by the blessing of God on his great Study, Travels and Experience...He is also an excellent Oculist, able to cure, not only the Cataracts, but (by the blessing of God) restores them to sight, in a Quarter of an hour, who have been blind above Twenty Years, and perfectly cures them, if curable, in 8 or 9 days time at farthest. He hath likewise an incomparable Eye-Water, for curing all distempers in the Eyes, and for strengthening and restoring the decaying sight of People of what age soever. You may have this excellent Water of him, from five shillings the bottle...”

Hippen also cured “Ruptures or broken bellies”, and “French-POX”.

David Irish (1700). In 1700, David Irish described himself as a “practitioner in physick and surgery, now dwelling at Stoke, near Guilford in Surry”. He addressed his medical treatise to his “dear Countrymen”(Irish 1700, p. 9). His medical treatise was one of the first in England to mention glaucoma:

“Sometimes these Humours break out principally in the Head...Sometimes they fall on the Eyes, and produce Lachrymarious Humours, which endanger the Sight, by breeding Cataracts and Glaucoma's, and if they obstruct the Optick Nerves, incurable Cataracts follow.”(Irish 1700, pp. 19-20)

He also mentioned:

“I have also rare Oils and Waters, famous for the Cure of most Distempers of the Eyes, without Pain or Smart. I couch Cataracts as dexterously as any Man whatsoever, restoring the Sight thereby in less than half an hours time, so as they may see to tell Money. No Sight, no Money is requir'd of them. I ask no Reward till their Sight is restor'd.”(Irish 1700, p. 27)

Mr. Cawood (1700). Mr. Cawood, in practice in Ireland by 1700, is notable for being the earliest identified oculist to reside in Ireland for a prolonged time. One historian has indicated that his full name was John Cawood, but we have not been able to confirm the first name (Bynum 1985, pp. 92-3). He advertised in London in 1702:

“Mr. Cawood, Oculist, Nephew to the deceas'd Sir Charles Scarborough [Scarburgh], Physician to her Majesty's 3 predecessors, has...applied himself wholly to the Study of the art Ophthalmic...under the Conduct of the most Famous and Ablest in that Art that was to be found in Europe, and has since his Travels practiced at Paris, where...he had the applause and incouragement of the King of France's first Physician and Chyrurgeon...whence being sent for to Ireland by a person of Quality, there being none of that profession in that Kingdom, where he has practiced these two years last with great success, as some hundreds there can testifie, being now sent for to England...He Couches Cataracts, takes off the Ungles, Skins, Films, Pearls...He cures the Lacrymal Fistula, the Hypopyen's...helps Squinting...he has

cured several Gutta Serena's...he preserves the Eyes from the small Pox, &c."(Cawood Nov 19-21, 1702)

After this London trip, he seems to have settled in Dublin long enough that upon a visit to Liverpool in 1710, resident Nicholas Blundell referred to him as "Dr. Cawood the Oculist from Dublin":

"June 24th. Dr. Cawood the Oculist from Dublin came to look at my Eyes, he Lodged here.

June 28th. I went with Doctor Cawood to Leverpoole to assist him in getting Acquaintance and to procure a Chamber for him where his Pasients may Come to him..."(Blundell, Gibson 1895, pp. 86, 87)

On June 30, "Dr Cawood tooke me in hand to Cure my Eyes and made me a Issue in each Eare."(Blundell 1968, vol. 110, p. 258) On July 3, "Dr Cawood let me see him Anatomize the Eye of a Cow"(Blundell 1968, vol. 110, p. 259). On July 10, "Dr Cawood made a Seton in Pat Smiths Neck."(Blundell 1968, vol. 110, p. 259). From Blundell's diary, we learn that eyebright was grown locally, and used for his eyes.

"July 14th. I began to learne of Dr. Cawood to play at Picket [a card game].

July 22nd. I Began by Orders of Dr. Cawood to take Drops, Eye Bright Tea and to put Clary Seeds into my Eyes."(Blundell, Gibson 1895, pp. 86, 87)

On August 27, 1710, "Dr. Cawood Read most of the afternoone to my Wife & me."(Blundell 1968, vol. 110, p. 264) After a first attempt to return to Ireland failed due to poor wind conditions, Cawood finally returned there on September 12.(Blundell 1968, vol. 110, p. 265)

On June 27, 1712, Blundell recorded: "Dr Cawood from Dublin came to Lodg here, tis the 2nd time he has comne hither from thence."(Blundell p. 24). Cawood again prescribed pills for Blundell. Cawood remained until August 1712. (Blundell, Gibson 1895, pp. 104, 106) Recreation during Cawood's visits consisted of fishing, cards, bowling, dining with friends, and a fair amount of drinking. Blundell does not mention any cataract surgeries performed during either of Cawood's visits.

In about 1713 or 1714, Cawood couched a Dubliner with partial success, and the procedure was later reported by Thomas Molyneux:

"One John Wright, an old Soldier, having a Cataract in both his Eyes, at length lost his Sight entirely. He applied to Mr. Caywood, Occulist in Dublin, who couched both his Eyes, in order to depress the crystalline Humor: But the Operation not succeeding so well on his right Eye, he only recovered the Use of his left. A few Months after, he was taken into the King's Hospital for decay'd Soldiers near Dublin, where he continued for eight or nine Years, and during all that Time his Sight was pretty good, so that he could walk by himself thro' the City, and distinguish the Faces of his Comrades...he died April 5, 1722."

Molyneux found after death that there was no membrane “as Woolhouse affirms”, nor was the crystalline lens present. Molyneux assumed correctly that the lens had been absorbed.(Molyneux 1745, vol. 2, p. 140)

Cawood was still in practice in 1722, when Blundell of Liverpool recorded “I Received from Dr Cawood six Boxes of his Eye Balsom & three Botles of his Eye Water.”(Blundell vol. 114, 1968, p. 69)

Mrs. Mohun (1701). Mrs. Mohun (or Moon) seemed to be a medical oculist:

“Mrs. Mohun the Occulist, that cures the Evil and and [sic] all Distempers in the Eyes, if Cureable, is Removed to...Westminster. She also maketh a Curious Water that strengthens the sight if never so weak.”(Mohun May 8-10, 1701, p. 2)

“This is to give notice, that Mrs. Moon, Occulist, is removed to...Bishoprick of Durham.”

Paddington Macqueen (By 1702). Paddington Macqueen, Esq, died in 1736 near Newcastle, Staffordshire. He had been the oculist to King William III (No author listed, Historical Register, 1736, p. 25), who died in 1702.

Roger Grant (1704). Roger Grant (d. 1724) succeeded William Read as the royal oculist. In 1704, the Archbishop of Canterbury issued a medical license to Roger Grant of Westport St. Mary Within, Wiltshire (No author “Lambeth” 2017). In 1706, “Mr. Grant, an Approved and Sworn Oculist” advertised his “Ophthalmiack Secret”, useful for inflammation from “Small Pox and Measles” in London.(Grant Aug 22-24, 1706)

In early 1707, “Roger Grant, Oculist of London” advertised that he had successfully restored to sight a minister named John Miller, who was blind for 30 years in one eye from “a Cataract”. Miller had in October 1706 submitted himself to be “Couch’d by one F. W. of the City of Exon”, but without success.(Grant Jan 2-4, 1707) In Exon, Richard Chubb had practiced in the late 1690s, Richard Harness practiced in 1705, and William Read would visit in 1707, but the identity of F.W. is unknown. In 1724, the same John Miller had vision loss in the contralateral eye until “Mr. Grant (now Oculist to his Majesty...instantly restored [him] to Sight”.(Grant Jan 31, 1724)

In March 1709, Grant successfully “couch’d the Cataract” of one Elizabeth Wild, whose eye had lost sight for 23 years (Grant March 18-21, 1709).

In July 1709, Grant advertised that he had “Couched” one “Wm Jones, Aged 20 Years...who was Born blind” who “in 5 Minutes time was brought to Sight” (Grant July 29, 1709).

In the summer of 1709, Grant listed among his cures over the past year: “Robert Wedell...aged 70, restored to Sight in 2 Minutes. Mary Dearing...aged 75, restored to Sight in one Minute...Will Dixon, aged 87, restor’d to Sight in 5 Minutes.”(Grant August 3-5, 1709). Grant added that Mary Dearing, age 75 years, living near Newgate, about 3 years before “been Couch’d in one Eye by a great Pretender, but without Success”.(Grant Aug 19-24, 1709) Grant was able to couch her eye successfully in June 1709. As noted above,

William Read advertised in October 1709 that he successfully cured John Younger, whose couching had previously been attempted by Grant.

In September 1710, Grant was sworn “Oculist and Operator for the Eyes in Extraordinary to Her Majesty” Queen Anne (Grant Sep 26-28, 1710).

In April 1711, Grant advertised that he had restored the vision of “Eliz. Cole, aged 38, born blind, brought to sight in 5 Minutes; Eliz. Grigory...aged 18 years, born blind, brought to sight in 5 Minutes...Rich. Presser...aged 86, restored to sight in 1 Minute...Mrs. Barnes...restored to sight in 3 Minutes.”(Grant Apr 3-5, 1711)

In about 1711, Grant couched a woman who retained some sight afterward. In about 1726, Benedict Duddell spotted the blind woman walking through London guided by a stick. Duddell couched the woman’s eye at her house and was successful at restoring her vision after several attempts (Duddell 1729, pp. 180-4).

In 1712, Joseph Mullard testified that a “Great Pretender” had attempted to couch his eyes, but all efforts were unsuccessful, until Roger Grant couched them.(Grant Jan 17-22, 1712)

Also in 1712, Grant advertised that he had restored the vision of the wife of Daniel Knell of Chelsea, who had been blind from cataracts.(Grant 1712) In 1713, Grant intended to travel to Lancaster, Durham, Newcastle, Scarborough, York, Gainsborough, and Lincoln (Grant May 9-12, 1713). By June, he had couched William Howard and James Leaveer of Lancaster, Richard Holt at Manchester, and Jane Stephenson at Preston (Grant June 4-6, 1713). In 1714, he couched the cataracts of the 13-year-old daughter of “Samuel Bolton, Chirurgeon”(Grant May 8-11, 1714). In September 1714, he couched the eyes of John Jessup of Suffolk (Grant Sep 2-4, 1714).

By 1715, Grant had been appointed “Oculist and Operator for the Eyes, and in that Quality, sworn Servant in Extraordinary to His Majesty King George” and had “couch’d and brought to Sight” Alderman Ewen and Wm Mullener of Cambridge (Grant Feb 3-5, 1715). By 1715, Grant had also “couch’d” successfully Mr. York in Soho, age 75, and Henry Dolison, age 63.” (Grant May 3-5, 1715). Upon Read’s death, Grant was “sworn Oculist in Ordinary to His Majesty, in the room of Sir William Read, deceased”(Grant June 23-25, 1715). In August 1715, Grant advertised that he had “couch’d” Mary Forder, age 70, Mrs. Jones of Southwark, age 71, and Mrs. Pearson in Cambridge, almost 80 (Grant August 1715). The Bristol Postboy of September 3, 1715 advertised his cures as he stayed in Bristol for 20 days (Jonathan Barry, personal communication, 2015).

In 1718, he instantly “restored” the sight of John Smyth, who had been Footman to King Charles I, and was now 112 years old (Grant Oct 30-Nov 1, 1718).

In 1721, Grant’s advertisement showed a picture of an eye being couched with the left hand. Grant also noted that one “Richard Averit Mountebank” had been falsely claiming to be the royal oculist in handbills in Northampton (Grant Oct 11, 1721). Grant also advertised numerous cures in Northampton: he had restored the sight of the wife, son, and daughter of Thomas Hipwell, the son born blind; the wife and son of Tho. Wills, the son

born blind; the 70-year-old Mrs. Adams; the 60-year-old Joseph Brown; Thomas Mitchel; Robert Nichols, age 60; the widow Pitham, age 70; the son of Joshua Guess, age 12, born blind.(Grant Oct 11, 1721)

In late 1723, Roger Grant published his cures from July to December 1723. He had “restor’d to Sight the Wife, Son, and Daughter of Thomas Hipwell, at upper Hatford, the Son being born blind; all brought to Sight in ten Minutes. The Wife and Son of Tho. Wills, of Flore, the Son born blind, both brought to Sight in ten Minutes. And also Mrs. Adams, aged 70, and Joseph Brown, aged 60...brought to Sight in four Minutes. Thomas Mitchel, of Helgrave, brought to Sight in one Minute. Robert Nichols of Kingstharp, aged sixty Years; brought to Sight in two Minutes. The Widow Pitham, at Blakesley, aged 70, brought to Sight in six Minutes. John Wilbe, at Hoverston, in two Minutes brought to Sight. A Son of Joshua Guess, at Oundley, aged 12 Years, born blind, brought to Sight in four Minutes.”(Grant Dec 21, 1723) Grant had an “Office at the Norwich Coffee House” which was located in London.(Grant Dec 21, 1723)

In April 1724, Roger Grant, “his Majesty’s Oculist” was reported to have died at his house.(No author listed, Apr 18, 1724). In May 1724, a catalog of the library of “Dr. Roger Grant, late Oculist to his Majesty” was published, in preparation for the sale of the books (No author, May 5, 1724).

William Grant. Roger Grant noted in January 1724 that William Grant, who had been his “Footman” for 18 months was at Hereford and “professed himself an Oculist, under the pretence of having served an Apprentiship to the aforesaid Mr. Grant...[but] he never served an Apprentiship to him, nor never was Instructed by him in the Ophthalmic Art, and therefore he and all others that pretend to be so Instructed are Imposters.” Roger Grant intended to go North to Westchester, Preseton, Caudel, and Carlisle.(Grant Jan 31, 1724) William Grant retorted that Roger was his uncle, had indeed instructed him in couching, and in fact William wrote that he successfully couched the cataract of a 15-year-old born blind after Roger Grant’s attempt had failed.(Grant April 4, 1724) William Grant apparently was successful. In 1733, “Mr. Grant, the eminent Oculist” cured several born blind near Birmingham (Grant August 9, 1733, p. 2).

William Grant was listed as an “oculist” of Reading, Berkshire, in 1746 (Hazlitt 1908, p. 90). “Dr. Grant the Oculist” planned to visit Derby in June 1754 (Grant May 31, 1754, p. 4). Mr. Grant, oculist, was still practicing in Reading in 1756 and 1757. “Mr. William Grant, well known for his...extensive practice as an oculist” died in May 1769 “at an advanced age”.(No author, May 18, 1769, p. 4) Grant’s will was soon probated (Grant “Will” 1769).

John Grant. John Grant was listed as an oculist in Reading in 1745 (Wallis 1988, p. 239), and could have been related to William.

William Crosse (1708). William Crosse described himself as an “Oculist” in his ophthalmic treatise of 1708, and in his newspaper advertisements. His treatise cited the works of Briggs and Coward. Crosse mentioned couching of cataracts in his treatise, but as he recommended William Read for couching, Cross probably did not perform this surgery himself (Crosse 1708, p. 63).

William Luly (1709). Luly advertised in 1709:

“W[illia]m. Luly Oculist, and Manual Operator after several years Practice, has attained to the Art of Couching to a high degree...in the County of Wilts; Eliz. Dorchester, Jane Holay, aged 90, Eliz Gough, Blind 17 years, aged 80, Mary Holloway aged 70...the Towns of Marlborough and Caln has given him their Certificates...His House is in Cardiff Glamorganshire, South Wales.”

John Balvaird (1709). John Balvaird (1652-1740) was born of a minister of the same name of Kirkden. The son was educated at the University of St. Andrews, receiving an MA in 1670, and received ordination in 1684. He then turned to medicine, and earned a medical doctorate (Scott 1925, vol. V, pp. 289-90). It has been assumed that he probably started practicing about 1716 when his successor was appointed.(Scott 1925, vol. V, pp. 289-90) However, clerical records relating to a Glamis oculist suggest Balvaird may have begun a bit earlier. In 1709, collections were taken for one John Stewart to see the Glamis oculist "to help the expenses for couching the catwreck in his eyes"(McPherson 1941, p. 132). In 1711, one Peter Gordon was given 1 £ 10 s. by the Session of Glenmuick to help pay his expenses for the Glamis oculist to couch his “cattarag”. Gordon did not follow through with the journey to Glamis immediately. A second collection was taken up for him to make the trip to Glamis to have a cataract couched in 1715 (McPherson 1941, p. 132). In fact, in 1709, the same session had taken up a collection of twenty shillings for John Stewart “to help the expenses for couching the catwreck in his eyes.” (McPherson 1941, p. 132) The Glamis oculist (Balvaird) was well-regarded. As late as 1737, one John Gordon in Cairney was going to go to see the Glamis oculist, but asked Presbytery for money to pay for the trip (McPherson 1941, p. 132-3).

Balvaird died on October 28, 1740 (Scott 1925, vol. V, pp. 289-90). His obituary remembered “the Rev. Mr. John Balvaird Minister of Glammis and Doctor of Medicine, in the 88th Year of his Age: He was a Person of a blameless Conversation and a sweet Temper...a successful Physician, a fine Oculist...”(No author November 4, 1740)

Francis Clerk (1710). Francis Clerk advertised in the Edinburgh Courant of March 10-13, 1710 that he was an “oculist and public practitioner” who “lately kept a stage in the Dukedom of Hamilton and couch'd the wife of John Stirling on the public stage, who had been blind for seven years” (Dingwall 2000, p. 23). This advertisement indicated that Clerk, an “occulist”, practiced near the Golden Hart, at the Tolbooth of Edinburgh (Personal Communication, Christine McVie, National Library of Scotland, 2018).

In 1710, a collection was to be taken at Dunbennan Kirk for a mountebank to couch William Johnston in Drumblade (McPherson 1941, p. 133). Francis Clerk is the only oculist known to be practicing in Scotland at that time.

John Arnold Kerner (1711). A catalog of books from Scottish authors included (Laing 1879, p. 206):

“J. H. Kernor (Oculist and Operator) Account of his Cures (1711).”

A list of burgesses from Glasgow from October 1712 includes:

“Kerner, John Arnold, doctor of medicine and oculist”(Anderson 1925, p. 293)

Rastrick (1713). John Rastrick (1650-1727) recorded in about 1713: “...we had a kinsman of our Name at London, an occulist...” (Rastrick 2010)

Peter Kennedy (1713). Peter Kennedy (b. 1685) (Wallis 1988, p. 340) published his *Ophthalmographia* in London in 1713. He became interested in ophthalmology because of “the Experience I had from other Patients as well as my self, who to my Sorrow was troubled with sore Eyes for many Years, during my Childhood and upwards, which was a great hindrance to my Studies.”(Kennedy 1713, preface) He cited Briggs, Maitre-Jean, and Brisseau (Kennedy 1713, preface). He indicated that his command of English might have suffered from his time spent overseas (Kennedy 1713, preface). He later wrote that he was “a young author” at the time he wrote this 1713 volume (Kennedy 1739, p. 2).

For cataract couching, the operator and patient sit in chairs facing each other (Kennedy 1713, p. 87). He provided specifics on 3 patients whom he couched early in his career. The first patient he couched was “a Country Woman”. He damaged the iris and produced a hyphema, which eventually cleared, leaving a slightly irregular pupil, but “the Woman enjoys a tolerable good Sight”.(Kennedy 1713, p. 91)

A 20-year-old woman with cataract was couched by Kennedy. When the cataract was dislocated superiorly, she cried “I see your Face...”, but Kennedy wanted the cataract to go inferiorly instead, so he kept working, but he discharged so much aqueous that the cornea was “wrinkly”. He withdrew his needle, and later found her eye “again full as before”, but the cataract had descended to cover the visual axis. He repeated the couching, and succeeded in dislocating the Cataract inferiorly this time.(Kennedy 1713, pp. 91-2) A year later, he couched the other eye of this patient, and merely released cortex into the eye, which was absorbed within a month (Kennedy 1713, p. 93).

Finally, he couched an old woman who had a cataract for 18 years, but the cataract was hard and adherent to the “Uvea” (iris), and he had to withdraw the needle. The other eye had a cataract for two years, which he couched without difficulty (Kennedy 1713, p. 93). After these experiences, he was more selective in choosing cataracts for surgery, and had avoided any subsequent “Evil Accident” (Kennedy 1713, p. 94).

Kennedy noted that the “Christaline” was subject to “Decay and preternatural Bigness, both which commonly pass under the Name of Glaucoma”. With decay, the pupil can be “light Sky blue, or bright Sea Green”. On the other hand, with an enlarged crystalline lens, “the Pupil...enlarges, or the Uvea [iris] shrinks, by reason of the Bigness of the Christaline, and its advancing or forcing forward upon the said Tunica; in this case it is generally of a whiter Colour...”(Kennedy 1713, p. 94) Maitre-Jean had published a description of “protuberance of the crystalline” in 1707, but had not included this condition under the heading of glaucoma (Leffler “Woolhouse” 2017). John Thomas Woolhouse had included this condition (which today we would call phacomorphic angle-closure glaucoma) in a letter of 1707, but this letter was not published until 1717 (Leffler “Woolhouse” 2017). Woolhouse might have lectured his students in Paris about glaucoma (and perhaps Kennedy trained in Paris), but Kennedy is the first that we know of to attach in a

publication the name glaucoma to Maitre-Jean's protuberance of the crystalline. At least by 1739, Kennedy was familiar with the teachings of Woolhouse (Kennedy 1739, p. 16).

Kennedy might not have couched cataracts for too long, because he wrote in 1739 "...I have left off all Operations in this, or any other way, many Years ago." (Kennedy 1739, p. 6)

Monsieur des Fontaines (1714). M. des Fontaines advertised in London in 1714, an apparently nonsurgical practice:

"Monsieur des Fontaines, the famous Oculist, being sent for from France, by some Persons of the greatest Quality here...he has the most curious Remedies that ever were known, that Cure all Distempers in the Eyes, without any Manual Operation." (Fontaines Aug 5-7, 1714, p. 2)

In 1717, he described himself as "Monsieur Des Fontaines, Son of Monsieur Des Fontaines, Oculist to his Royal Highness the Duke of Orleans", and denied that he had returned to France (Fontaines, Jan 15-17, 1717, p. 2)

In June 1738, "Mr. Le Fountain, an Oculist" died at his home Norfolk-Street in the Strand. (No author, June 24, 1738, p. 3)

Mr. Bradley (1714). Bradley advertised in London in 1714:

"Mr. Bradley, Surgeon and Oculist, may be advised with...in all Distempers relating to the Eyes..." (Bradley Aug 14, 1714)

John Bushel (1714). John Bushell was licensed as a surgeon in the diocese of Norwich, June 22, 1708 (Wallis 1988, p. 94). According to a testimonial that year, John Bushell, surgeon, had served as an apprentice for seven years under Mr Thomas Godman, surgeon, of London, and then as a journeyman for two years (Jonathan Barry, personal communication, 2019).

John Bushel, a surgeon and "oculist" advertised in the Bristol Postboy of September 25, 1714 that he was visiting the Bristol area from Wiveliscombe (Jonathan Barry, personal communication, 2019). In Bristol, his handbills noted that he erected a stage, and treated the poor with harelips, wry necks, corns, cancers, or blind from cataracts (Barry, personal communication 2019). On November 13, 1714, the Bristol Postboy reported that Bushel successfully restored the sight in one minute of a man previously unsuccessfully couched by others (Barry, personal communication 2019). On December 3, 1715, the Bristol Postboy reported that a man from Yeovil was successfully couched by Dr. John Bushel, oculist. Jonathan Barry at the University of Exeter consulted Richard Smith's Bristol Infirmary Memoirs held at the Bristol Archives Office, and kindly shared his findings with us.

Mrs. Jones (1714). In 1714, Mrs. Jones couched the eyes of Abraham Dolins (1701-1720), son of Daniel Dolins. On Oct 11, 1714, Daniel Dolins wrote: "It pleased God to afflict our Eldest Son with Cataracts in both Eyes from his Birth. We design God willing to have him Couched in one of them by Mrs. Jones on Thursday next." (Figure 1)

Mr. Strye

Reverend Sir

I have had such large experience of your Affectionate Compassionate Christian temper of Spirit that I depend upon your Assistance on my first motion by way of Request: It pleased God to afflict our Eldest Son with Cataracts in both his eyes from his Birth. we design God willing to have him Couch'd in one of them by Mrs. Jones on Thursday next. we therefore desire your fervent Prayers to the Father of Lights the Author of every good & Perfect Gift that he would be pleased to grant his Blessing to the Operation & that the Child may receive a more enlarged Capacity to glorify his Creator and doo him better service in the world, & herein you will much Oblige Sir

Monday -
Oct: 11: 1714:

Your most obedient
Humble servant
Dan: Dolins

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Figure. Letter of Daniel Dolins (Senior) to John Strye, October 11, 1714, informing him that Mrs. Jones would couch the eyes of his son Abraham (Dolins Oct. 11, 1714; No author listed "Catalogue" 1867).

On October 15, 1714, Dolins updated Strye: "...the operation was yesterday very well perform'd by the Divine Assistance, & the Child is as well as we can expect in so short a time, but we must wait with some Patience for the ripening & dissolving of the matter before he can have his clean sight ..." (Dolins Oct. 15, 1714) In May 1715, Dolins informed Strye: "Mrs. Jones designs God Willing on Wednesday next to renew the operation on one of my sons eyes in order to remove some remaining strings which obstruct his Perfect Sight... These are therefore to desire you to renew your Prayers... [to] make this second operation completely successful." (Dolins May 1715) (Abraham was the brother of the younger Daniel Dolins who was operated on by Cheselden.)

In about 1724, Benedict Duddell encountered a woman in London who was left blind after a cataract surgery. The woman reported that "Mrs. Jones, a famous Woman for Couching of Cataracts, would have Couch'd her some Years before." (Duddell 1729, p. 168)

Mrs. Jones died in July 1720:

“Last Week died one Mrs. Jones, a noted Occulist; she was a Gentlewoman of great Goodness and Charity, and left behind her a very good Estate.”(No author listed, July 16, 1720).

Frances Deane (1720). Her protégée, Frances Deane, advertised in 1739 that:

“Mrs. Deane, Oculist...used by the family in this useful Art, for upwards of a hundred Years past, and never out of the Family; Mrs. Deane being the only Survivor, and brought up in the same Art from her Infancy by the well-known Mrs. Jones, and has practis’d in the same with with Success, for upwards of Twenty Years.”(Deane March 3, 1739)

At the age of 8, in about 1739, poet William Cowper (1731-1800) had “specks” on his eyes, and therefore was sent to live with an “oculist” he referred to as “Mrs. D, an eminent oculist” (Ryskamp 1959, pp. 8-29). For some reason, biographers have erroneously written that he lived with a “Mrs. Disney” (Ryskamp 1959, p. 8-9). In fact, we know of no oculists named Disney, and the only eminent female oculist of the period was Frances Deane.

In 1740, she advertised in London as “Frances Deane, Oculist”. Patients who live out of town can stay at her house until cured.(Deane 1740). In 1744, we find advertised for sale for 6d.:

“A poem, inscribed and dedicated to Mrs. Deane, Oculist...on her great Judgment and Performances on the various Distempers Incident to the Eye. Written by a Gentleman, with Gratitude for the great Cure she perform’d on him.”(Deane January 21, 1744)

In 1754, “Mrs. Taylor, Oculist” advertised that she lived “next door to the late Mrs. Dean, Oculist.”(Taylor, May 11, 1754) Mrs. Taylor’s treatments appeared to be limited to medicines and eye waters.

Mrs. Cater (1715). Mrs. Cater was an oculist who advertised her eye waters in London between 1715 and 1741 (Mounsey 2019, pp. 95-104).

Ferrand Swaine (1716). Ferrand Swaine advertised in London in 1716 as an oculist who would “Cure all manner of Sore Eyes.”(Swaine Sep 13, 1716) His advertisement did not suggest surgical treatment.

Mr. Rigault (1716). “Mr. Rigault, Oculist to several Lords of the Court of England, lately arriv’d in London...infalliably cures the Blindness occasion’d by the Indispositions of the optick Nerves. He cures also all other Distempers of the Eyes.”(Rigault Nov 8-10, 1716)

James Smith (1717). James Smith (born c. 1670) of England, who practiced in London, was memorialized at age 47 in a trade card of 1717:

“James Smith artificial eye maker at the Brunswick Coffee House...Britain’s Fam’d Oculist Displays his Art In Couching Eyes and bettering of that Part”(No author listed, Professional Anecdotes, 1825, vol. 2, p. 116)

Edinburgh surgeons (1719). The competency examination by the Incorporation of Surgeons in Edinburgh of Andrew Johnston in 1712 did not mention cataracts, but that of James Robertson in 1719 included “couching of the cataract, fistula lachrymalis” (Dingwall 1995, p. 88). Likewise, that of John Douglas in 1724 included “operation of couching the cataract, theory of vision” (Dingwall 1995, p. 90).

Francis Appleby (1720). Appleby advertised in 1720:

“I Francis Appleby, Dr. couched an eye of the Wife of William Darnell...in Northamptonshire, on the 25th of May last, she being 63 Years of Age, and had been blind 8 Years, but now sees very well.”(Appleby Sep 29, 1720)

Benedict Duddell (1721). Benedict Duddell trained in Paris under “a very Eminent Oculist”, after having served an apprenticeship “four Leagues from Paris”.(Duddell 1729, p. iv) One of these teachers in or near Paris was undoubtedly John Thomas Woolhouse. Duddell called him “Mr. Woolhouse, a very great Oculist at Paris”(Duddell 1729, pp. 60-1). Duddell also wrote “I have examin’d above a hundred blind in a Day at Paris, under Mr. Woolhouse in the Hospital of the Blind.”(Duddell 1729, p. 56)

Duddell was still practicing in Hammersmith in 1757, but was not listed among Hammersmith practitioners by 1767, and presumably had died (Wyman 1992).

Robert Smith (1722). Robert Smith “Oculist” (c. 1642-1732) subscribed to a book published in Edinburgh in 1722 (Mackenzie 1722, vol. 3, p. xiii). Robert Smith, “a Roman Catholic surgeon and oculist at Fochabers” may have been the father of cleric Alexander Smith (1684-1766) (Cooper 2004). On April 11, 1732 in Edinburgh, the newspaper reported “Yesterday died here, aged about 90, Dr. Robert Smith, an eminent Oculist and Lithotomist” (No author, April 18, 1732, p. 2).

Jon Hodkinson (1722). On September 10, 1722, Jon Hodkinson, a widower and “Occulist”, was married in London.

Richard Baty (c. 1725). Richard Baty (1696-1758) of England received an MA degree from Glasgow University in 1725. He was a clergyman in Cumberland, England (Brown 2004). In addition, “he studied the eye and its diseases, and had a local fame as a skilful oculist” (Stephen vol. 3, p. 423).

Richard Cosens (1725). On June 19, 1715, Richard Coosens, son of Richard, was bound as an apprentice to John Freake, surgeon (Wallis 1988, p. 136). Presumably, Coosens only completed one year, because on August 4, 1719, “Richard Coosens” began the 6 year residual on an apprenticeship with William Cheselden (i.e. to finish in 1725).(Cope 1953, p. 94)

Mrs. King (1733). Mrs. King was an oculist in Gravesend (Lonsdale 1990, p. 269). Her son Richard Coosens apprenticed under William Cheselden at St. Thomas’s Hospital from 1719 to 1725 (Cope 1953, p. 94).

In 1733, Mrs. King advertised that she has cured diseases of the eyes for many years. Her son Richard Cosens had studied under “that ingenious Oculist and Surgeon Mr.

Cheselden” and was also familiar with her methods. She and her son were partners in treating disordered eyes. She wished to clarify that she was not dead (King June 9, 1733, p. 3).

Mrs. King treated and taught to read and write the poet Maria Francis Cecilia Cowper (nee Madan) (1726-1797) who had weak eyesight as a child, and was therefore sent to Mrs. King in 1736 and 1740 (Lonsdale 1990, p. 269).

Thomas March (1725). In June 1725: “Thomas March, late of the Parish of Christ-Church in Surry, Oculist” was declared an insolvent debtor (No author listed, London Gazette, June 8, 1725)

Samuel Palmer (1725). Samuel Palmer (1670-1738) practiced first at the Lock Hospital, and then from 1720 until his death at St. Bartholomew’s Hospital (Bannerman 1904, vol. V, p. 290). The case records of student Charles Oxley from 1725-6 record: “A Lusty young fellow had a Cataract in Each Eye & had been blind some time, Mr. Palmer Couch’d one & the operat[ion] fail’d, Mr. cheseld[e]n couch’d ye other & depres’d it, & ye patient fancied he saw ye light...he was dismiss’d, tho but little better at that time[.] I saw him again about 3 months after, his Eye was much better & stronger, & begg’d to have the other Couch’d”.(Oxley 2020, p. 49)

Traditional Surgeons at Hospitals (1720s-1800). In the 1720s and 1730s, evidence emerges of cataract couching in hospitals (see Table 5; Bannerman 1904, vol. V, p. 290; Oxley 2020, p. 49; Moore 2004; Eames 1734, vol. 7, p. 488; Peachey 1910, p. 268; Kirkup, Sharp 2008; Wilks 1892, p. 198; Cope 1953, p. 95; Langdon-Davies 1952, p. 263).

Table 5. Cataract Surgery at Hospitals in the British Isles.

Country	Hospital.	Surgeon (Dates at Hospital)
England	St. Thomas's Hospital	William Cheselden (1718-38) --John Taylor (1724-5) --Richard Cosens (1719-25) --Samuel Sharp (1725-9) John Girle, Jun. (1731-49) --John Wall (1736) Joseph Paul (1741-60) --William Shippen (1759) James Ware (1773-7) --Mr. Johnson (by 1793)
	Guy's Hospital	Samuel Sharp (1733-57) --Richard Kay (1743-4) Joseph Warner (1734-90) Lewis Way (1757-73) --Jonathan Wathen Phipps/Waller (1790) --Mr. Johnson (by 1793)
	St. Bartholomew's Hospital.	Samuel Palmer (1720-1738) John Freke (1726-55) Percivall Pott (1729-36, 1745-88) --James Lucas (c. 1766) James Earle (1770-1815)
	Westminster Infirmary.	William Cheselden (1724-39) Thomas Hope (1728-36) Thomas Gataker (1754-60) Edward Ford (1781-4)
	St. George's Hospital.	John Ranby (1734-52) William Bromfield (1744-80) John Hunter (1754-6, 1768-1793) --William Hey (1757-9) Thomas Gataker (1760-8)
	Worcester Infirmary	John Wall (1746-76)
	Leeds Infirmary	James Lucas (1767-93) William Hey (1767-1819)
	Norwich General Hospital	Benjamin Gooch (1771-80)
	Salisbury Infirmary	John Goldwyer (1775-82)
	Sheffield Infirmary	William Staniforth (1792-1819)
	Royal Infirmary for the Diseases of the Eye	Jonathan Wathen Phipps (Waller) (1804)
	London Infirmary...Diseases of the Eye (Moorfields)	John Cunningham Saunders (1805-10) John Richard Farre (1805-62)
	Bristol Eye Hospital	William Henry Goldwyer (1810-)
	Aberdeen Infirmary	Alexander Rose (1742-62)
Scotland	Royal Infirmary at Edinburgh	Thomas Young (1754-83) Benjamin Bell (1772-1806) John Aitken (1778-90)
Ireland	St. Nicholas' Hospital (Dublin)	Cusack Rooney (1753-c. 1783) James Dillon (1753-87)

William Cheselden (1725). Some authors have claimed that William Cheselden trained with Woolhouse. Others have claimed that Woolhouse proposed iridotomy as a theoretical procedure, which was then later carried out by Cheselden. In fact, there is no evidence that Cheselden trained with Woolhouse. Cheselden studied anatomy under William Cowper

(Morgan 1968), who does appear to have performed cataract surgery, even if he was not well-known for it. However, Cheselden's surgery apprenticeship was actually with James Ferne, the lithotomist at St. Thomas's Hospital (Morgan 1968). Cheselden was quite well-known. He was appointed surgeon at St. Thomas's Hospital in July 1718 (No author July 5-12, 1718). He was also the surgeon at Westminster Hospital from 1724 to 1739 (1952, p. 263).

It may have been between 1722 and 1725 when Cheselden became interested in ophthalmology. In Cheselden's 1713 edition of his treatise on anatomy, the 3 pages devoted to eye anatomy did not mention cataract surgery, or any ophthalmic cases personally familiar to the author (Cheselden 1713, pp. 174-6). The 1722 edition mentioned a gentleman he knew who lost one eye from the smallpox and the other eye from a thorn (Cheselden 1722, pp. 243). In about 1719, he treated a soldier whose left eye was lifted from the orbit by a sword simply by pushing the eye back in the orbit (Cheselden 1722, pp. 243-4). Also, a gentleman hit on the head had diplopia which gradually resolved (Cheselden 172, pp. 245). Cheselden also wrote "I have examined the Eye of a Crocodile which Sir Hans Sloan[e] keeps in spirits" (Cheselden 1722, p. 246). He noted: "...when the Crystalline Humour is remov'd in the couching a Cataract the Aqueous possesses its place, and becomes a Lens." (Cheselden 1722, p. 247)

The case records of surgical student Charles Oxley at St. Thomas's Hospital cover the years 1725 and 1726 (and were owned by Richard Austin in about 1800). Oxley recorded in May 1725: "...upon dissecting an aged body of Mr. Cheseld[e]n a Cataract was found in one of ye Eyes, & in ye presence of all ye Pupills, the 2 Masters carefully dissected it, & found ye whole body of ye Chryst[alline] hardn'd & Opake." (Oxley 2000, p. 47).

Oxley's records describe Cheselden's method of performing cataract surgery in detail:

"The necessary preparations are gruell, salets, pudding &c, on wh[ich] ye patient must feed a week or fortnight, and ye day before ye operat[ion]...purg[e]. to empty ye Intest[ines]. Let ye operator & patient sit face to face, astride upon a bench, opposite to a good light, an assistant to hold his head steady. He must look toward ye nose while ye operator with his thumb & two first fingers hold open ye eye & secure the globe from moveing, then pierce through the Tunica Conjunct[iva], a straw's breadth from ye cornea next to the lesser (external) canthus, with a spear pointed needle and pass it beyond (behind) the Iris, raise the point of the needle over ye Cataract and depress it & keep it down a little. If it rise again depress it once or twice more without drawing out the needle. If it remain below ye pupilla the patient will see the light if the eye have no other deficiency. But if it be too soft, break and rise again, tis probable it has not been ripe enough, & must be let alone to some other time for ye pieces will unite again and harden, and altho ye cataract be depressed and ye patient can't see it's no fault in ye operation, or is ye patient more blind than before. Apply a bolster dipt in Aq. Ros. & let him sit up in bed, VS (venesection) ad 14 vel i6g, & 8 hours after give Enem[a]...& apply to ye eye Ung[uen]t...spread thin upon a cloth...to be renewed twice a day to prevent

inflat[ion]. But if ye inflam[ation] be great Emp[loy]. Vesic. ad nuch [nuchal venesection]...& live abstemiously all ye while.”(Parsons 1932, p. 174-182)

Oxley recorded a number of cataract operations during this time, beginning in May 1725 (Oxley 2020, p. 49). In May 1725, “an Old man who had been blind some years with a pearl colour’d Cataract twas Couch’d & depress’d, & he joyfully cry’d out (he saw the light)...he desir’d a second Couching wch was accordingly done in ye presence of many Gentlemen, twas again depress’d & he sw ye light...recover’d his Sight bravely & ye Eye grew Strong.”(Oxley 2020, p. 49)

In June 1725, a 30-year-old man with bilateral cataracts was couched in both eyes, with only partial success on one side in which the cataract was too soft to be easily couched. Then “Mr. Cheselden to prevent ye well Eye from being Strain’d too much, Bought him a Convex glass & then he could tell ye Letters in ye Book.”(Oxley 2020, p. 49)

Oxley also recorded couching in another patient, with failure due to the cataract being soft.(Oxley 2020, p. 49)

In addition, the couching in “a [black]” patient was complicated by the cataract rising 3 times, but ultimately “he at last saw ye light”(Oxley 2020, p. 49).

The successful couching performed at St. Thomas’s Hospital in a young man previously operated on by Mr. Palmer was recounted above (Oxley 2020, p. 49).

In addition, “a boy aged 9 was born blind, was Couch’d on one Eye, I see him 2 days after, the Eye was Clear & he could see a little, but he afterw[ar]d slipt my Notice”.(Oxley 2020, p. 49)

Finally, “an old man aged 58” with bilateral cataracts was bilaterally couched on one day, and “could read with a glass but his Eyes being always watery, weakn’d his Sight.”(Oxley 2020, p. 50).

Thus, of the 7 patients being couched at St. Thomas’s Hospital in 1725-6, Oxley recounts: 4 successes, 1 failure, and 2 without followup beyond a few days.

Cheselden’s students from before 1722 did not become known for eye surgery: Robert Hillier and Peter Cheselden (Cope 1953, p. 94). However, some of the students who trained with Cheselden after 1722 did become known for lecturing or operating on the eye: John Girle Jr., Richard Coosens (Cosens), Samuel Sharp (Cope 1953, p. 94). Some later students did not become known for ophthalmic work: Hasel Craddock, John Belchier, John Sheron, and James Webb (Cope 1953, p. 94).

Cheselden was a surgeon at the Westminster Hospital from 1724 to 1739 (Langdon-Davies 1952, p. 263). His tenure there overlapped with the oculist Thomas Hope beginning in 1728 (Langdon-Davies 1952, p. 263). The minute books of the Westminster Hospital do not record any eye surgeries until July 1735, when Cheselden successfully “couched” the cataract of one John Hayes (Humble 1966, p. 41).

Cheselden never published any record of his eye surgeries until the March 1727 newspaper report of congenital cataract surgery in Daniel Dolins (the brother of Abraham,

on whom Mrs. Jones had operated). Next, in May 1727, the newspapers reported “John Egerton of Oulton in the County of Chester, Esq, was couch’d for a Cataract by Dr. Cheselden, with good Success.”(Cheselden May 13, 1727)

The report of Daniel Dolins couching, along with another paper describing Cheselden’s surgery for the artificial pupil, were published together in 1728. Warner, a surgeon at Guy’s Hospital, never observed the operation for the artificial pupil (Wenzel 1791, p. 268).

In May of 1727, Benedict Duddell evaluated a boy about seven years of age with congenital cataracts. He could see just “a glimmering of light” in the right eye, and could “see to distinguish Colours” with his left eye. The boy was already scheduled to be couched by Cheselden, though Duddell doubted the procedure would work. The left eye was couched by Cheselden the next month, but the vision did not improve. In September 1727, Duddell couched the right eye, with a small improvement in vision. Six months later, the vision in both eyes had not changed (Duddell 1729, p. 206-7; Duddell 1729, p. 65-6). The boy returned to his home in the country, but returned to London in 1732 to have his eyes evaluated. The boy was convinced that his remaining vision came from his left eye, which had a pupillary opacity despite the couching by Cheselden, but Duddell believed that the vision came from the right eye, which had a clear pupil. The family consulted a third surgeon, who “needled the left Eye” several times, causing inflammation which required two months of bed rest. Duddell happened to see the boy in an alley with a cloth over the left eye. The boy thought he was using the left eye to see by looking out the corner of the eye, but Duddell proved that it was in fact the uncovered right eye which the boy was using to see. The boy’s left eye was “very soft; the Cornea was considerably diminish’d” (i.e. phthisical). (Duddell 1733, pp. 66-8), but the boy and his family refused to believe that the right eye was the seeing eye, despite Duddell’s demonstrations that only with the right eye uncovered could the boy “distinguish most middling Objects”.(Duddell 1733, p. 68)

In about 1730, Cheselden treated a young man who had been shot, leading to loss of the right eye and loss of vision and pain in the left eye, even though the pupil in the left eye was clear. Later, he developed a cataract in the left eye. The man traveled from Suffolk to London “to be couch’d by Mr. Cheselden”.(Duddell 1733, p. 61) After the cataract couching, it was noted that there was also an opacity of the vitreous body. Cheselden declined to operate further, but another oculist did needle this vitreous opacity (Duddell 1733, p. 62). Six weeks later, they sought the opinion of Benedict Duddell, who found the eye “softish”, and just treated medically. The patient was only able to see large objects (Duddell 1733, p. 63).

The 1740 edition of Cheselden’s treatise included the description of Daniel Dolins, the boy born blind, which Cheselden had couched in 1727. Cheselden added: “I have couched several others who were born blind, whose observations were of the same kind; but they being younger, none of them gave so full an account as this gentleman.”(Cheselden 1740, p. 304)

John Girle, Jun. (1725). John Girle Jun. began an apprenticeship with William Cheselden in 1718 (Cope 1953, p. 94). Girle was on the staff of St. Thomas's Hospital from 1731 to 1749 (Cope 1953, p. 95). In 1731, Girle took on as an apprentice Joseph Paul (Wallis 1988, p. 456), who later performed couching (Leffler "1491"). According to the diary of Richard Kay, Girle lectured hospital students on the eye (Kay 1968, p. 73).

Dr. Gunn (1726). In 1726, a collection of £3 was provided so that Dr. Gunn, oculist at Elgin (Scotland), could couch the eye of James Winchester's wife (McPherson 1941, p. 133).

Richard Rock (1726). Richard Rock (c. 1690-1777) was a physician from Hamburg. He advertised in 1726 that:

"There is lately come to Richmond in Yorkshire, the famous Occulist from St. Thomas's Hospital-Gate, London, Dr. Richard Rock, who by his great Practice in Physick and Chirurgery has attain'd to a great many wonderful Cures, and especially the Eyes, who dexterously couches the Cataract or Suffusion in the Eye..."(Rock January 15, 1725/6)

He did not perform on a stage. Rather, patients could visit him at his lodgings (Rock January 15, 1725/6)

By 1731, he had returned to London and seemed to focus on dentistry. In 1735, he advertised as "Dr. Rock, Occulist and Chymist", but seemed to focus on treatment of venereal disease.

John Taylor (1726). John Taylor (1703-1772) was the son of a surgeon of the same name in Norwich. Taylor was just 6 years old when his father died in 1709 (James 2013, p. 133). From whom Taylor learned eye surgery is not known. He was in London from about 1722 to 1724 or 1725. Historians have written that Taylor became an apothecary's assistant in London in 1722 (Wood 1930). He married Ann King in London in January 1723 (ancestry). Their son, also John Taylor, was baptized in London in June of 1724 (ancestry). A 1761 volume which purports to be an autobiography, though it may have been written by someone else, states:

"...I was bred to general practice, and 'twas well known, went regularly through every branch under the best masters that England could produce; and was judged to have made such a progress in anatomy and surgery, that I was scarce of age before I was placed as the chief surgeon to one of the first hospitals out of London in England."(Taylor 1761, vol. 1, p. 2-3)

This hospital outside of London was presumably the Norwich Hospital. From the beginning of his Norwich career, Taylor knew how to couch cataracts. On July 25, 1726, in Norwich, "Mr. Taylor, Surgeon in this City, on Thursday last couch'd four more Persons for the Cataract with great Dexterity and Success; and 'tis generally allowed, that he is a very great Proficient in that Operation."(Taylor July 27, 1726)

Who in London might have taught Taylor cataract surgery is unclear. In the dedication of his 1727 treatise, Taylor implied that the two years he spent at St. Thomas's Hospital with surgeon William Cheselden provided instruction in eye surgery:

“To Mr. William Cheselden, Surgeon to St. Thomas's Hospital...[the] Author [Taylor acknowledges] ...Benefits he has receiv'd from your Industry and Ingenuity. The Success which has so frequently attended the Use of your Needle in this Delicate Operation, sufficiently shews the Niceness of your Hand; and the little Damage you have ever done, where Unavoidable Accidents have conspir'd to render the Operation unsuccessful, is a great Evidence of the Accuracy of your Judgment. The Knowledge I have of this Branch of my Profession, such as it is, I am wholly indebted to You for; and the Success I have had on a Great Number of Subjects within these two Years, will I hope prove that I have follow'd no ill Director.”(Taylor 1727, pp. iii-vi)

On the other hand, pointing out that one's teacher's success has been attained “frequently” with just “little Damage” hardly seems to be an unqualified endorsement. The 24-year-old Taylor thought that he was in a position to judge his 39-year-old teacher.

The narrative of Taylor's life provided by his grandson suggests that the training with Cheselden was of a general nature:

“...the celebrated Chevalier Taylor...a pupil of the famous Mr. Cheselden. My grandfather, however, relinquished the general profession of a surgeon, and confined himself wholly to that of an oculist.”(Taylor 1832, vol. 1, p. 3)

Taylor implied in his 1727 treatise that Cheselden had only hinted that a cataract was an opacity of the lens, a fact which Taylor confirmed:

“If I have in any Degree made it probable, that the Opacity of the Crystalline Humor is the True Cataract, I must here own that I had the First Hint of it from You.”(Taylor 1727, pp. vi-vii)

In fact, this knowledge was publicized in Paris by Brisseau and Maitre-Jan between 1705 and 1707.

It is not clear whether Cheselden was Taylor's primary teacher, or if in fact Taylor or others inspired Cheselden to take up the field rather late in his career.

Taylor's autobiography indicated that he spent 1728 traveling throughout England, and in 1729 arrived in Edinburgh, and then traveled throughout Scotland (Taylor, “History of the Travels”, vol. 1, 1761, p. 9). By November 1729, he had arrived in Bristol, and wrote a letter addressed to Desaguliers. Taylor called himself “Surgeon and Oculist, Professor of Midwifry, &c. late Surgeon in St. Thomas's Hospital.” He noted that Desaguliers had encouraged him to take up the specialty of treating the eyes. Taylor indicated that he wanted to republish an updated version of his ophthalmic treatise, but wanted to get more practical experience regarding the treatments described, and therefore, he had spent time with doctor who treated his patients in “public”:

“But being conscious of my own Inability in supporting some Particulars of them from Practice; and wanting to possess an immediate Opportunity, I knew of no Method so effectual as by being present a few Months with a Gentleman who

followed that Method of public Practice, to remark such Cases as presented under his Care.”(Taylor 1729, p. 4)

Biographers have not asked who the “public” practitioner was. In 1726, Richard Rock advertised as an oculist who couched cataracts in Yorkshire, but he treated patients at his lodgings (rather than in public) and seemed to quickly focus on dentistry and venereal disease in London. The most likely practitioner we can find is Edward Green of Doncaster (d. 1745). Green was in the second of three generations of oculists, many of whom practiced on a public stage, with rope dancers, and other theatrical productions. Green arrived in Edinburgh in December 1728, so the trip from England to Scotland would roughly match the itinerary Taylor outlined some decades later in his autobiography.

Taylor visited Ireland several times (1730–1, 1732, 1745–6, 1760) (Kelly 2008, p. 75). In February 1732, he arrived in Dublin. He traveled to Cork on this trip as well (Kelly 2008, p. 75). His 1760 tour of Ireland included stops in Galway, Limerick, Granard, and Dublin (Taylor July 29, 1760).

In June 1731, Taylor practiced in York and Newcastle (Taylor, June 19, 1731, p. 2). He spent much of that year in Scotland, and announced his departure from Edinburgh in November 1731 (Taylor November 30, 1731, p. 4).

Taylor later claimed to be in North Wales from Sep. 1731 to March 1732 (Taylor 1761, vol. 1, pp. 10, 20), but the newspapers cited above show that he was elsewhere for at least part of this time. He visited Ireland in 1732, and his imminent return from Dublin to England was announced in November 1732 (Taylor Nov 28, 1732).

On May 10, 1733, John Taylor, “oculist” took as an apprentice in London George Filer (Wallis 1988, p. 586).

Taylor visited Marseille in 1734. The subsequent advertisements of Jacques Daviel show that Daviel was well aware of Taylor’s visit (Koch 2014). Hans-Reinhard Koch has noticed that after Taylor’s visit, Daviel began to specialize in ophthalmology and to use the press to promote his practice, and was willing to travel to find patients (Koch 2014). As Taylor’s visits were highly publicized affairs, this influence could have occurred without Taylor and Daviel actually meeting in person. Still, as Taylor would welcome the faculty to his procedures, a meeting is quite plausible. Indeed, Taylor later claimed that while in Marseille in 1734, he met Jacques Daviel, shared his knowledge with Daviel, and initiated Daviel into the mysteries of the art, and even that Daviel owed Taylor everything he knew about the eye (Taylor 1766). Taylor published the claim of a meeting in 1767 (Koch 2014). As Taylor did not make the claim until after Daviel had died in 1762, whether the two met, and what they might have said, remain unknown.

Taylor’s advertisement of November 13, 1735 related:

"We hear that Dr. Taylor has lately made an artificial pupil in the eye of one William Arkenhart, at Mrs. Hutton's, a Leather-gilder in St. Paul's church-yard, (after a manner peculiar to himself) with such very singular success, that after a

blindness of 20 years, this man is recover'd to such a perfection of sight by it, as to be able even to read."(Taylor Nov 13, 1735, p. 3)

A patient named Andrew Loch wrote in May 1736 from London that his vision had been partially restored: "I have been very bad with a Cataract on the left Eye...I can see a little now since I have been under Doctor Taylor's hand, the famous Oculist...I was coucht the 9th of the Month..."(Cunison 1762, pp. 54-5)

Taylor visited Bath on June 14, 1736:

"Dr. Taylor his Majesty's Oculist, &c. arrived here...he made his new Operation of the Cataract for two Persons in the Presence of near a Hundred Gentlemen and Ladies of Quality and Distinction, as well as the Principal of the Faculty. 'Tis observable that they were instantly recovered to Sight..."(Taylor June 17, 1736)

In 1740, surgeon Archibald Cleland of Bath published tools which could be used for extracting or aspirating cataracts (Cleland 1740).

Taylor made clear in his treatise of 1736 that his "new operation" was a type of couching, though he did use a lancet before introducing the needle (Taylor 1736, pp. 33-42). His description was very complex, but consisted of trying to open the lens capsule, and then sublux the lens into the vitreous, leaving the lens capsule intact: "By thus passing the diseas'd Chrystalline thro' the Opening I made in its Capsula..."(Taylor 1736, p. 40) Today, we might call Taylor's technique an "extracapsular couching", in contrast with the "intracapsular couching" which had been practiced since antiquity. Interestingly, Taylor seems to have postulated some type of accommodation: "If we believe that the Ligamentum Ciliare is in any manner necessary to our seeing Objects at different Distances, whether from altering the Figure, or changing the Situation of the Chrystalline..."(Taylor 1736, p. 41) He believed that by leaving the lens capsule in place, it would hold the vitreous posteriorly, and by altering its shape, the lens capsule could continue to assist with accommodation. In reality, the refractive index of the vitreous (1.337) is not high enough in comparison with that of the aqueous (1.336) for the aqueous-vitreous interface to have a significant refractive effect. It would probably be very difficult to carry out "extracapsular couching" without pharmacologic dilation, anesthesia, or magnification. Still, if Taylor were sometimes successful in carrying out an extracapsular couching, it could conceivably improve outcomes by avoiding angle closure glaucoma caused by vitreous obstructing the pupil. Hirschberg indicated that this technique had been previously described in works by Heister and by Petit (Hirschberg 1984, vol. 4, part 2, p. 169). This "extracapsular couching" might be considered a step in the direction of Daviel's "extracapsular extraction" which was introduced a few years later.

Taylor visited Edinburgh in April of 1744, and announced that he was giving lectures on the eye. Tickets were sold, with the audience limited to 300, according to the Caledonian Mercury of April 23, 1744 (Thin 1938, p. 141-2). Taylor lectured women attending on "The Beauty of the Eye" (Thin 1938, p. 143). In May of 1744, the Town Council planned to formally receive and welcome Taylor (Thin 1938, p. 143). However, in the Caledonian Mercury of July 12, 1744, the Royal College of Physicians and the Corporation of Surgeons cautioned against accepting Taylor's claims, and warned that some

of his surgeries were unsuccessful (Thin 1938, p. 144-145). In early August, Taylor announced his intention to depart for Glasgow (Thin 1938, p. 146-7). Taylor visited Glasgow, Aberdeen, and Perth, until Oct 2, 1744, when he went to London (Thin 1938, p. 148).

Taylor returned to Edinburgh and Glasgow in 1749 (Thin 1938, p. 148; McLean 1912).

According to the Williamson's Liverpool Advertiser of January 12, 1759, Taylor was practicing in Chester and Liverpool, having recently arrived from Bath, on his way to Dublin. (Bickerton 1913, p. 213)

Taylor's arrival in Dublin from Edinburgh was announced at the end of May 1760 (Taylor May 26, 1760, p. 2).

The Belfast Newsletter noted on June 6, 1760 (p. 3) that Chevalier Taylor, ophthalmiator and oculist, was in Dublin (Greene 2019). The paper noted on October 10, 1760 (p. 3) that Taylor was now in Belfast (Greene 2019).

In 1761, he was in South Wales (Taylor 1761, vol. 1, pp. 10, 20).

John Taylor, Jr. Taylor's son, who called himself John Taylor, Jr (1724-1787) (Schwartz 2015) attended in college in Paris, and returned to London in 1739, where he studied with his father. Taylor Jr. advertised: "Mr. Taylor, Oculist, who has practiced since the year 1743..." (Taylor Feb 4, 1758) John Taylor Jr. was practicing until at least 1777 (Schwartz 2015).

John Taylor, III. John Taylor, III (1757-1832), grandson of the Chevalier, wrote that he "attended the late Dr. William Hunter's lectures on anatomy", and was appointed oculist to the Prince of Wales in 1789 (Schwartz 2015). He and his younger brother Jeremiah were jointly appointed oculist to King George III in 1790. John Taylor III had quit practicing by 1811 to focus on his literary pursuits (Schwartz 2015).

Jeremiah Taylor. Jeremiah Taylor (after 1760-1822) was the grandson of the Chevalier John Taylor, was educated at the University of Basle, and became a prominent oculist in his own right. On November 27, 1784, Felix Farley's Bristol Journal announced the sale of the household goods of "Mr. [Jeremiah] Taylor, surgeon and oculist" at his house on Clare Street, as he was going to reside in London (Jonathan Barry, personal communication, 2019). Jeremiah Taylor advertised in 1787 a book entitled "Remarks on Inflammation of the Eye," (Schwartz 2015) which seems not to have survived into the modern period. He was appointed oculist to the King in 1790 (Schwartz 2015).

Thomas Hope (1728). Thomas Hope (fl. 1728-1752) trained in Paris under "my old Master [Charles] St. Yves" (Hope 1744). Hope was the "Oculist" for the Westminster Hospital from 1728 to 1736 (Langdon-Davies 1952, p. 263). He offered his services for free, but did not seem very involved in the workings of the hospital (Humble 1966, p. 28).

In 1729, "Thomas Hope, M.D....Oculist" advertised that he was just about to publish an English translation of St. Yves' treatise on the eyes (Hope July 12, 1729). However, St. Yves' work did not appear in English until 1741, when J. Stockton's translation appeared.

In 1729, Hope also alleged that Benedict Duddell's treatise had copied the first 20 pages of his book from St. Yves without attribution, that Duddell's method of scarification was described by St. Yves on p. 195, and already known to Woolhouse (Hope July 12, 1729). Hope also was familiar with Woolhouse's teachings (and might have spent time with him in Paris), because Hope wrote that "p. 99, of Mr. Duddell's Book, concerning the Use of the Leaden Canala in the Fistula Lachrimalis, of which he claims the first Invention, is taken verbatim out of Woolhouse's Papers, or Caurs, which are in the Hands of all his Pupils." (Hope July 12, 1729)

In about 1732, Hope treated an orbital mass in London (Hope 1744).

In 1743, Hope "follow'd him [John Taylor] in Edinburgh for six months, where he performed above 100 operations of the cataract by couching". (Hope 1752) Taylor mentioned the possibility of removing the entire crystalline lens when couching had inadvertently displaced the lens into the anterior chamber (Hope 1752). Although it was later rumored that Taylor had performed planned cataract extraction before Daviel, Hope doubted that Taylor had priority (Hope 1752).

In 1744, Hope published a case of a young Scottish girl with an orbital tumor (Hope 1744). Hope showed the girl to Alexander Monro, professor of anatomy at Edinburgh (Hope 1744). Hope performed the excision of the mass on June 19, 1744, in the presence of Dr. Lowis, Dr. Dundass, Dr. Mac-Farlane, Dr. Young, and Mr. Cunningham, Surgeon (Hope 1744).

By 1745, it was clear that Hope was not returning to London, and the household items of "Thomas Hope, Esq., Doctor of Physick" were auctioned in London, according to the advertisement, because he had moved to the country (actually Scotland) (Hope June 6, 1745).

In 1752, Hope was in Paris, where he reviewed Daviel's method of extracting cataracts (Hope 1752). Hope watched Daviel perform cataract extraction in two patients (Hope 1752). Daviel had begun performing the surgery in 1745, and presented 115 cataract extractions, of which 100 were successful (Hope 1752). Hope's first letter was read November 16, 1752 (Hope 1752).

Richard Smith (1727). Richard Smith was appointed the royal "Oculist" on October 9, 1727 (Bucholz Si-So). He advertised in London in July 1728:

"Dr. Richard Smith, of Islington, Occulist to his present Majesty King George, hath since his coming to London, couch'd several Persons in London and Islington, with his usual sure Success" (Smith July 13, 1728). Smith promised to perform the operation for free for the poor and his Majesty's Guards (Smith July 13, 1728).

Richard Smith advertised in June 1730 in the Ipswich Journal that he is "His Majesty's Oculist, who is lately come into these parts and keeps several stages, has performed many and remarkable cures in couching of eyes and other distempers". (Zwanenberg/Smith)

A Richard Smith was listed as the oculist to Lord Chamberlain in the House of Commons in 1755 (Millan 1755, p. 65), 1757, and 1769 (No author listed, Registry, 1757, p. 41; No author listed, Registry, 1769, p. 62).

John Freke (1727). John Freke (1688-1756) performed an apprenticeship with surgeon Richard Blundell, and received a diploma from the Barber-Surgeons' Company (No author/Freke 1966). Richard Cosens began an apprenticeship with Freke in 1715 (Wallis 1988, p. 136), but apparently completed it under Cheselden. Freke practiced at St. Bartholomew's Hospital from 1726 to 1755 (Moore 2004). He was friends with William Cheselden (No author/Freke 1966). Beginning in 1727, the hospital governors appointed "Mr. John Freke one of the assistant-surgeons of this house to couch and take care of the diseases of the eyes of such poor persons as shall be thought by him fitt for the operation, and for no other reward than the six shillings and eightpence for each person so couched as is paid on other operations." (Moore 2004)

Thomas Moore (1730). On November 20, 1790 died "Mr. Thomas Moore, oculist, at Brisnells-End, in the parish of Handsworth, near Birmingham, in the 82d year of his age, who for 60 years successfully practiced that profession." (No author, Dec 17, 1790, p. 4)

Stephen de Beaumont (1730). Stephen de Beaumont of France (d. 1748) presumably arrived in England when his oculist uncle, John Thomas Woolhouse, returned to his home country after July 1730 (Leffler, Woolhouse 2017). Beaumont was couching cataracts on his own by 1736. He was charged in 1738 with speaking treasonous words—specifically drinking to the health of the Pretender (James III). (Rex 1738, Osborne) In 1739, Beaumont was arrested and charged with assisting the pro-Jacobite conspiracist George Kelly in his 1736 escape from the Tower of London (London 1739, Common Sense 1739).

Prince Frederick had a falling out with his parents, in part because Frederick impulsively insisted on moving Princess Augusta to another palace during her labor to prevent the Queen from being present for the delivery of their first child in 1737 (Newman; Livingstone 2015, p. 181-2). The degree of estrangement is illustrated by the fact that in 1744, Frederick appointed as his oculist Beaumont, a Jacobite-sympathizer (An Account 1744; An Account 1747; Penny 1748).

After Beaumont's death in 1748, his wife advertised an eye water in 1751 (Leffler "Woolhouse" 2017; see Figure above).

Henry Bracken (1731). Henry Bracken (1697-1764) was apprenticed to Dr. Thomas Worthington of Wigan (Satchell 2012). In 1717, he spent several months studying at St. Thomas's Hospital, but left because they did not dissect cadavers (Satchell 2012). He was able to perform dissections when he trained at the Hôtel Dieu in Paris (Satchell 2012). Beginning in August 1730, he spent about 18 months at the University of Leiden, where he attended the lectures of Boerhaave (Satchell 2012). In late 1731, Bracken advertised that he had a cure for stammering and squint eyes which could work without him even seeing the patient (Bracken Dec 28-30, 1731).

In 1734, Henry Bracken of Lancaster, "chirurgion" took as an apprentice **Westropp Berry** of Clonehane (Dove Grove), Ireland. According to archives compiled by genealogist

Lorton Alexander Wilson, Bracken agreed "to teach him the science and arts of physick and surgery and man midwifery, as also the business or art of an oculist, as he, Henry Bracken, now useth."(Berry 2019) In 1754, Berry died on a voyage to Guinea (Berry 2019).

Peter Kennedy in his 1739 treatise published a series of letters between himself and Henry Bracken regarding a dispute over the nature of couching. In one, Bracken wrote "...I have had long Experience in Curing Diseases of the Eye..."(Kennedy 1739, p. 3) Kennedy asserted that he had been "credibly inform'd" that Bracken had "not only translated Monsieur [Antoine] Maitre-Jean; but that you have even writ Notes upon him, which you intend to publish."(Kennedy 1739, p. 7) In March 1737, Bracken guessed that Kennedy was about 55 years old (i.e. born about 1682) (Kennedy 1739, p. 17). Bracken alleged that Kennedy's 1713 treatise was plagiarism of Maitre-Jean's 1707 volume (Kennedy 1739, p. 19), and Kennedy responded by accusing Bracken of plagiarizing the 1713 volume (Kennedy 1739, p. 38). In a subsequent letter to Bracken, Kennedy wrote of "...Maitre-Jean, whose Works 'tis plain he [Bracken] did not know or understand, tho' he pretends (in his Book) to have translated him [Maitre-Jean]"(Kennedy 1739, p. 27) Kennedy also mentioned that Bracken in his treatise on Farriery indicates that he had translated and annotated Maitre-Jean's book "(which has even been offered to the Booksellers, tho' not so readily accepted of)"(Kennedy 1739, p. 35)

In 1740, Bracken advertised that he had found a printer for his translation:

"Printed for James Hodges, at the Looking-Glass on London-Bridge, In the Press, and Speedily will be published, A Treatise of the Diseases of the Eyes, with the Remedies proper for the Cure, embellished with great Variety of Physical Experiments (translated from the original French of Mons. Antoine Maitre Jan, Sworn Chirurgion to the King of France) and illustrated with Variety of useful Explanatory Notes, by Henry Bracken, M.D."(Bracken April 26, 1740)

Nonetheless, we can find no evidence that this book ever appeared in print. Perhaps, the printers were dissuaded by Kennedy's allegations. It is conceivable that Bracken's translation of Maitre-Jean remains extant in manuscript form.

In 1745, Bracken informed against Jacobite sympathizers, but in January 1746, he was briefly imprisoned because it had appeared that he supported the Jacobite cause when they had seized his town (Satchell 2012).

Mr. Tippear (1732). The Dublin Evening Post reported on September 2, 1732:

"Drogheda, August 27th, 1732...About six or seven gentlemen from Dublin...speaking of the great character Doctor Taylor had for curing of the blind, one Mr. Tippear, an oculist, which is now in Drogheda, ...reply'd it was a very easy thing to perform, if well understood. Presently two of the inhabitants of the town were sent for, a man 3 years blind, and about 72 years of age, and a woman upwards of forty-five years blind. Mr. Tippear...couch'd a cataract for the old man, and...restored him to sight in about the space of a minute, so as to see all the company about him perfectly well; he also cured the woman in the very same manner, at her own apartment..."(Madden 1867, vol. 2, p. 282)

George Goldwyer (c. 1731) and family. George Goldwyer (d. 1776) was a surgeon and eye specialist who lived in Marlborough. His father, William, was a surgeon (Smith 1917, p. 257). Three of his sons, and some subsequent descendants, became eye surgeons in the West of England. The physicians and surgeons in his family tree have been published (Smith 1917, p. 257), but the ophthalmic interest of the patriarch, George, and his descendants, has only been partially realized. George Goldwyer was practicing as a surgeon in Marlborough, Wiltshire by 1730 (Wallis 1988, p. 233). His oldest son William was a surgeon (Smith 1917, p. 257). George, “son of George Goldwyer, surgeon, Wiltshire; [was] born at Marlborough” in about 1731, and raised there (Mayor 1903, Part III, p. 129). Thus, the family was raised at Marlborough. This son George became a physician (but not a surgeon) (Smith 1917, p. 257). His last two sons, Henry and John, (Smith 1917, p. 257) were also eye surgeons.

When George Goldwyer died in 1776, his son Henry advertised:

“Mr. [Henry] Goldwyer, late of Reading, is now removed to Marlborough, Wilts, to succeed his Father, deceased. He attends in all Diseases of the Eyes and Surgery, as his late Father [George] did.”(Goldwyer H, Oxford Journal, July 5, 1776, p. 1)

William Goldwyer. William Goldwyer, son of George, settled in Bristol. William had a son, William Henry, in Bristol in 1763 (Wallis 1988, p. 233).

A lease in Bristol from July 18, 1769 was held by “William Goldwyer, oculist”, (National archives website) or “William Goldwyer, oculist or surgeon” (Leech 1997, vol. 1, p. 50). William Goldwyer was listed as a surgeon of Bristol in 1793 (Wallis 1988, p. 233).

When William died in 1795, his son William Henry advertised from Bristol:

“Mr. W. [H.] Goldwyer, Surgeon...succeeds to the practice of his Father, more especially in Diseases of the Eyes, in which the late Mr. [William] Goldwyer was so universally and eminently distinguished.”(Goldwyer WH, Reading Mercury July 27, 1795, p. 1)

Henry Goldwyer. Henry Goldwyer (1731-1801) was the son of George Goldwyer, and became a surgeon (Smith 1917, p. 257).

In December 1767, “Henry Goldwyn, surgeon and oculist of Castle Street, Reading” went into a partnership there with surgeon Clement Cruttwell, who had been working in Wokingham (Bell 2016, p. 678). The partnership broke up about 1779 (Bell 2016, p. 678).

In 1771, “Mr. Goldwyer, Oculist, late of this Town” advertised in Reading that he had gone to practice in London, but invited townsmen to send him “Letters relating to the Diseases of the Eyes” at Fleet Street.(Goldwyer March 4, 1771, p. 3)

By July 1772, when Henry was 41 years old, “Mr. Goldwyer, Surgeon and Oculist” had moved back to Reading, “on account of his Health”.(Goldwyer, July 11, 1772)

In June 1776, an estate in Reading belonging to “Mr. Goldwyer, Surgeon and Oculist” was for sale because he was moving to Marlborough to “succeed his late Father”.(Goldwyer June 24, 1776, p. 2)

In July 1776, the Oxford Journal indicated:

“Mr. Goldwyer, late of Reading, is now removed to Marlborough, Wilts, to succeed his Father, deceased. He attends in all Diseases of the Eyes and Surgery, as his late Father did.”(Goldwyer H, Oxford Journal, July 5, 1776, p. 1)

In December 1801, we learn from the Salisbury newspaper:

“On Friday died, at his house in Brown-street, in the 70th year of his age, Mr. Henry Goldwyer, a gentleman of the most urbane disposition, the loss of whom will be grievously felt by the poor, his skill as an Oculist having been chiefly exercised gratuitously for the relief of their maladies.”(No author, Salisbury and Winchester Journal, December 28, 1801)

John Goldwyer. In July 1769, “John Goldwyre, Surgeon, Oculist, and Man-Midwife” advertised that he practiced in Sarum.(Goldwyer July 10, 1769, p. 2) “Mr. [John] Goldwyre, jun” will carry on the partnership with “Mr. [George] Goldwyre, sen”, who will help him on the difficult cases.(Goldwyer July 10, 1769, p. 2) John Goldwyer was a house surgeon for one and one-half years at the principal hospitals in London. He learned to cut for the stone, and also “the improved Operation on the Eye, for the Cataract, after the Method of Wensel and Hilmer, in both which Operations he has happily succeeded since he has resided in Sarum”.(Goldwyer July 10, 1769, p. 2) He was willing to take an apprentice,(Goldwyer July 10, 1769, p. 2) and did so in 1770 and 1777 (Wallis 1988, p. 233).

In October 1772, “J. Goldwyer, Surgeon and Oculist of this city” advertised in Salisbury that one should stay away from Wenzel and other itinerant oculists. Goldwyer “has made the structure of the eye, and its several diseases, his particular study, under the most eminent of the profession, and by an extensive practice” can do all the necessary operations on the eye, especially because he continues to attend the patients daily after the surgery.(Goldwyer October 12, 1772, p. 1)

In May 1775, “Mr. John Goldwyer” was elected as a surgeon at the Salisbury Infirmary (No author listed, Salisbury and Winchester, May 22, 1775, p. 3), and was listed as a surgeon there in 1777 (Wallis 1988, p. 233)

In March 1782, “Mr. Goldwyer, Surgeon and Oculist” explained that he was going to continue practicing at both Salisbury and Southampton, and was not giving up either business (Goldwyer, March 25, 1782, p. 2). John Goldwyre was still listed as a “Surgeon and Occulist” in Southampton in 1784 (Bailey 1784, vol. 2, p. 445; Wallis 1988, p. 233).

William Henry Goldwyer. William Henry Goldwyer (1763-1820) was the son of William of Bristol, and grandson of George (d. 1776). William Henry was educated at the Bristol Grammar School. In 1779, he was apprenticed to an apothecary in Bridge Street, Bristol. In 1782, he trained under James Norman at the Bristol Infirmary. Next, he trained at hospitals in London and Paris (Smith 1917, p. 257). He got married in 1793 and had 12 children (Smith 1917, p. 258). William Henry took part in the founding of the

Bristol Eye Hospital in about 1810, and was named the first surgeon-oculist there (Smith 1917, p. 258; Wallis 1988, p. 233). Goldwyer was said to be “a skilful operator on cataracts”. (Smith 1917, p. 259) He initially had “Surgeon and Oculist” on his door, but near the end of his life changed it to just “Surgeon” so that people would not assume his talents were limited to ophthalmology (Smith 1917, p. 260).

Benjamin Gooch (1731). Benjamin Gooch (d. 1780) was licensed in 1731 as a surgeon in Stratton, St. Mary, Norfolk (Wallis 1988, p. 233). The Norfolk and Norwich Hospital was founded in 1771. When he died in 1780, he was remembered as a surgeon and the founder of the Norwich General Hospital (Wallis 1988, p. 233).

In his 1773 ophthalmic treatise, Joseph Warner thanked “my worthy friend and acquaintance, Mr. Gooch, of Norfolk” for teaching him that the handle of a couching needle should be short to facilitate steady control (Warner 1773, p. 99).

John Ranby (1734). John Ranby (1703-1773) of London performed an apprenticeship beginning on March 15, 1715, at age 12 with Edward Barnard (Morgan 1967; Wallis 1988, p. 490). Ranby was granted a diploma of the Barber-Surgeons company as a foreign brother in 1722 (Morgan 1967).

In September 1723, Ranby evaluated a man named William Sollars with bilateral cataracts, and thought they might need to be couched. Ranby sought a second opinion from the surgeon Mr. Tanner, who advised waiting until the cataracts were more mature. The man then died, and Ranby dissected the eyes and demonstrated that the lenses were opaque (Eames 1734, vol. 7, p. 488).

St. George’s Hospital was founded in 1733 (Morgan 1967). The minutes of the hospital from July 3, 1734 indicate that all cataracts were to be couched by surgeon John Ranby (Peachey 1910, p. 268). In the hospital records from January 1, 1733/4 to July 16, 1735, only three patients were treated for cataract (Peachey p. 195-203) Ranby was still practicing at St. George’s Hospital in 1740 (Peachey p. 290), and in fact appears to have been practicing there close to 1752 (Lee 1754, p. 42).

Ranby took William Bromfeild as an apprentice (Morgan 1967), and appears to have trained Samuel Mihles as well. In 1752, Ranby was appointed surgeon to Chelsea Hospital, where he worked until he died in his apartments at that hospital in 1773 (Power 2004).

Samuel Sharp (1733). Samuel Sharp (1709-1778) performed an apprenticeship with William Cheselden at St. Thomas’s Hospital beginning in March 1724/5 (Kirkup, Sharp 2008; Cope 1953, p. 94). From 1729 or 1730, he spent part of the apprenticeship studying with surgeon S. F. Morand in Paris (Kirkup, Sharp 2008). In 1732, Sharp received his diploma from the Barber-Surgeons’ Company, and in 1733, he was appointed as a surgeon at Guy’s Hospital, where he practiced until 1757 (Kirkup, Sharp 2008; Wilks 1892, p. 198; Cope 1953, p. 95).

The first edition of Sharp’s surgical treatise in 1739 covered both cataract couching and the artificial pupil of Cheselden (Sharp 1739, p. 157-65). Regarding iridotomy, Sharp

wrote "I once perform'd it with tolerable Success, and a few months after the very Orifice I had made contracted, and brought on Blindness again." (Sharp 1739, p. 167)

In 1752, when she was 46 years old, Sharp attempted to couch the cataract of the poet Anna Williams (1706-1783). He indicated he "would couch her gratis, if the cataract was ripe; but upon making the experiment it was found otherwise, and that the crystalline humor was not sufficiently inspissated for the needle to take effect." (Boswell 1831, vol. 1, p. 221)

On April 12, 1753, Sharp read to the Royal Society of London his method of extracting the cataract by making the inferior corneal incision with a single knife. (Sharp 1753, p. 151). Sharp had tried Daviel's method "in one patient", but the anterior chamber immediately deflated before he could put the scissors in, which "renders the operation tedious and embarrassing." (Sharp 1753, p. 151) Also, Sharp did not perform a capsulorhexis. Instead he pressed on the eye to remove the cataract in its capsule: "After this, you press gently with your thumb against the inferior part of the globe of the eye, in order to expel the cataract." (Sharp 1753, p. 151) A later publication clarified that Sharp had used his method just one time (on April 7, 1753) (Sharp Dec 1753, p. 322). By November 22, 1753, he had performed his method 19 times in 11 patients (Sharp Dec 1753, p. 322). One of his patients was a 54-year-old surgeon, who was operated bilaterally, and was able to return to work (Sharp 1753, p. 322). Three patients, two of whom were operated bilaterally, had no useful vision in the operated eye(s) after the surgery (Sharp 1753, p. 322).

In 1754, Sharp published a simplification of Daviel's cataract extraction technique. Sharp's version used just one knife to make the anterior chamber incision. Sharp wrote "M. Daviel employs a great Number of Instruments...I have abridged it [Daviel's method], and practiced it myself upon several People..." (Sharp 1754, p. 251) Sharp did not make a capsulorhexis. Rather, he put pressure on the eye, and if that did not work, impaled the lens with his knife to remove the lens still in its capsule (Sharp 1754, pp. 253-4).

Sharp evaluated the eyes of the composer Handel in 1751 (Jackson 1968).

In November 1753, Sharp presented his cases of cataract extraction performed at Guy's Hospital (Sharp 1754, p. 322). Sharp resigned from Guy's Hospital in 1757, but maintained a private practice through 1765 (Kirkup, Sharp 2008).

By the 1758 edition of his text, Sharp had returned to an extended discussion of couching, and just had a brief mention of cataract extraction, for which he suspended judgment until more was known (Sharp 1758, p. 166; Sharp 1761, p. 166).

By 1766, Sharp and Gataker were both pessimistic about the success rate of cataract extraction, and generally favored couching (Mihles, Reid 1764, p. 217).

In 1768, Sharp and Thomas Gataker observed Baron Wenzel perform bilateral cataract extractions on a woman in London (Wenzel 1791, p. 146). However, despite this observation, Sharp continued to emphasize couching, and only briefly mention extraction, about which he reserved judgment in 1769 (Sharp 1769, pp. 174-5).

George Lauder (1734). Minister David Maitland of Aberdeen had been blind for several years beginning in about 1734 when he was “couched of a cataract by the celebrated Mr. George Lauder, Surgeon, by which his sight was restored.”(No author listed 1908, p. 70) Lauder was listed as a surgeon in Edinburgh by 1737, and took surgical apprentices from 1744 to 1752 (Wallis 1988, pp. 355-6). He died 1752 when he was “thrown from his horse on the 30th-of April...when going to visit a patient; by which his skull was fractured.”(No author, Deaths, 1752, p. 214)

William Bromfeild (1735). William Bromfeild (1713-1792) (often written Bromfeld, Bromfield) did an apprenticeship with surgeon John Ranby (Morgan 1967; Bevan 2004). Bromfeild began lecturing in anatomy and surgery in 1735 (Bevan 2004). He was appointed as a surgeon at St. George’s Hospital from 1744 to 1780 (Bevan 2004). Bromfeild demonstrated anatomy at Barber Surgeons’ Hall beginning in 1744 (Bevan 2004). He was the surgeon at the newly formed Lock Hospital from 1746 to 1769 (Bevan 2004).

In the summer of 1751, composer George Frederick Handel (1685-1759) was diagnosed by Samuel Sharp with “an incipient gutta serena”(Jackson 1968) On August 7, 1752, it was reported that Handel was “seized a few Days ago with a Paralytick Disorder in his Head, which has deprived him of sight”.(No author listed, August 7, 1752, p. 2) On November 3, 1752, “George-Frederick Handel, Esq; was couch’d by William Bromfield, Esq; Surgeon to her Royal Highness the Princess of Wales, when it was thought there was all imaginable Hopes of Success by the Operation.”(No author listed, November 4, 1752, p. 1) However, in December 1752, Handel was still reported to be without any vision (Blanchard 1999). The Chevalier John Taylor attempted some type of treatment in August 1758 at Tunbridge Wells, apparently without success (Jackson 1968, Blanchard 1999).

Bromfeild taught John Hunter at St. George’s in 1754 (Morgan 1967), and the two may have worked there later after Hunter was appointed a full surgeon (Hunter 1993, np).

Bromfeild taught William Hey of Leeds in 1759 (Lloyd 2005, p. 76).

Bromfeild made the transition from couching to extraction after Daviel’s presentation of the method. Hunter described a cataract extraction performed by Bromfeild (Hunter 1993, p. 49):

“A woman received a blow on her right eye, which became blind soon after; occasioned by the Chrystalline becoming opaque. This was two years ago. She was taken into the hospital, and couched...Mr. Bromfield (in Daviel’s way) perforated the Cornea at the lower part, with a pretty broad instrument which was sharp at the point in this form. Then he took a pair of Scissars...and dilated [extended] this opening outwards and inwards. Then he lifted up the Cornea to extract the Chrystalline, but it was somewhat difficult. The crystalline came away like a pulp.”(Hunter 1993, p. 49)

Hunter noticed that the patient had pain and bled when the healthy iris was touched.(Hunter 1993, p. 49) It is interesting that Hunter still called extraction a couching.

Bromfeild wrote a surgical treatise in 1773, which did not mention cataracts (Bromfeild 1773, vols. 1 and 2).

Andreas Larini (Signor Violante) (1731). Although the entertainment provided by mountebanks was usually just a draw to get people to spend money on medicines or surgery, in one family, the entertainment was the main attraction. Andreas Larini (also known as Signor Violante) was a rope slider, and apparently also an oculist. His wife, Signora (or Madame) Violante (1682–1741), was a professional dancer.

When Signor Violante slid down a rope on May 31, 1727 from the steeple of St. Martin-in-the-Fields, Westminster, traveling 300 yards in 30 seconds, the royal princesses (presumably including Princess Caroline) were in attendance (Life 2006). He continued to perform in London that summer (Life 2006). In July 1728, Violante flew from St. Vincent's Rocks at Clifton across the River Severn, traveling 550 yards in half a minute, while firing a pistol held in each hand (Life 2006).

Violante has been identified as one of the acrobats on the ropes in Hogarth's painting *Southwark Fair of 1733* (Life 2006). The *Bristol Mercury* of May 27, 1826 stated that the Signor accidentally hanged himself while performing, which has led biographers to consider that he might have died in such a manner near Bristol (Life 2006).

However, it is more likely that he simply adopted a lower profile. By 1731, Madame Violante was 49 years old, and perhaps the Signor was of a similar age, and wanted a less adventuresome career. In Dublin, Larini advertised on May 17, 1731:

“Andreas Laurini, by Birth an Italian, a long Practicer in all Branches of Physick Chymistry, and a Profess'd Occulist, Having for many Years past, Travell'd for his Improvement in the said Professions, thro' most Countries of Europe...Any Distemper incident to the Eyes...Ruptures...Wens...King's Evil...Ulcer or Canker, the Fistula, Falling Sickness...Scurvy...Draws Teeth...his Lodging, at the New-Booth in Dame's Street”. (Laurini May 17, 1731)

These advertisements continued through July. Historians have identified this oculist Laurini as identical with our rope-sliding husband of Madame Violante, which seems reasonable given the rarity of the name, and the fact that the Madame was professionally dancing in Dublin from 1730 to 1732 (McCardle 2005).

Madame Violante performed in Norwich in 1734. “Mr. Larini” played a servant in a play put on by “Signora Violante” in Newcastle in June 1735 (Violante, June 14, 1735, p. 3). After this point, no further references to the Signor have been identified. That year, the Signora opened a dancing school in Edinburgh, where she remained until her death (Read 2006).

Mr. F. Gunther (1731). In 1731, Gunther published in London the testimonials of several patients: “last Year we received our Eye-Sight again, and can see still pretty well, having been couched and cured by Mr. F. Gunter, Oculist”. (Gunther 1731, p. 1)

German Oculist (1733). We find advertised in London in 1733:

“The Famous German Oculist, who by a new Method of Couching cures those that are born blind”(No author listed, November 24, 1733)

Postlewait (1733). In 1733, a man named Postlewait treated a man who had lost an eye from small-pox at the age of five years. Postlewait “raised the Eye in the Socket, and couched the Ball of the Web, so that he immediately saw with that Eye as well as the other.”(No author, Feb. 5-9, 1733)

Joseph Warner (1734). Joseph Warner (1717-1801) was born in Antigua (Power, Warner 2004). Warner did an apprenticeship with Samuel Sharp at Guy’s Hospital in 1734, and beginning in 1741, assisted Sharp as a lecturer in anatomy (Morgan 1967). Warner served under the Duke of Cumberland in suppressing the 1745 Rebellion in Scotland (Morgan 1967; Power, Warner 2004). He was a surgeon at Guy’s Hospital from 1746 to 1790 (Wilks 1892, p. 198; Power, Warner 2004). In 1748, Warner performed a cataract couching in a 26-year-old man in London. It took four attempts to completely remove the cataract from the visual axis (Warner 1754, p. 13-6). In his 1754 surgical treatise, he prefaced his description of cataract extraction with: “The Manner in which I perform the Operation is this” (Warner 1754, p. 30). Warner performed cataract extraction using just one instrument, and did divide the capsule (an extracapsular technique), although sometimes the lens was spontaneously expelled upon incision of the cornea (Warner 1754, pp. 30-2). However, in 1760, Warner described both couching and extraction, including their complications and degree of difficulty, and wrote “...I am inclined to believe that the Operation of Couching will still prevail.”(Warner 1760, p. 94)

In 1773, he still recommended couching as part of a surgeon’s armamentarium (Warner 1773, p. 93). With extraction, Warner recommended capsulorhexis: “I look upon the division of the Capsula of the Cataract to be of great consequence in this operation.”(Warner 1773, p. 103). He explained both couching and extraction, without recommending one over the other, except in cases of congenital blindness, when extraction was inappropriate because the eyes are “always in motion” (i.e. have nystagmus) (Warner 1773, p. 103). The lengthy descriptions given to preventing cataracts from rising after depression suggest that couching still formed a big part, perhaps the majority, of his personal cases (Warner 1773, pp. 108-9).

In 1780, George Chandler described Warner’s operation for couching (Chandler 1780, p. 169-71). Warner noted that during cataract extraction, contraction of the extraocular muscles might immediately expel the entire cataract (Warner 1784, p. 105).

John Wall (1736). John Wall (1708-1776) of Worcester attended Oxford, earning a BA in 1730 and an MA in 1736 (WRI 2020). In December 1736, he earned a Bachelor of Physic at St. Thomas’s Hospital (Worcester Royal Infirmary 2020). He married in Worcester in 1740 (WRI 2020). He was the first surgeon of the Worcester Infirmary when it opened in 1746 (WRI 2020). The Infirmary physicians were Thomas Attwood, James MacKenzie, and Thomas Cameron (WRI 2020). Cataracts were cured within the first 3 years of the Infirmary’s opening (Worcester Royal Infirmary 2020). Wall believed the Malvern waters were beneficial for eye ailments, and cited Richard Banister’s Breviary of 1622 in support of this notion (Wall 1780, p. 106).

Dr. Phillips (1736). A 1736 advertisement from Derby noted:

“...the most celebrated Occulist, Chirurgeon, and Physician from London, Dr. Phillips...so well known in and about Birmingham for his successful Practice” would reside at Uttoxeter and Newcastle for the winter.(Phillips December 9, 1736)

He visited Newcastle in July 1747:

“Dr. Phillips, from Leeds in Yorkshire, Occulist, Surgeon and Man-Midwife, and who has perform’d wonderful Cures in those Parts, is now come to this Town, where he may be applied to...on the publick Stage.”(Phillips July 18, 1747)

Percivall Pott (1736). Percivall Pott (1714-1788) began an apprenticeship with Edward Nourse (1701-1761) in 1729 at St. Bartholomew’s Hospital (Morgan 1967). In 1736, Pott received a diploma from the Barber Surgeons’ Company (Kirkup, Pott 2004). He was appointed as a surgeon at St. Bartholomew’s Hospital in 1745 (Kirkup, Pott 2004). He published works on lacrimal fistula in 1758, and on cataract in 1775 (Kirkup, Pott 2004; Pott 1775). His treatise made it clear that he had performed cataract surgery by both couching and extraction at St. Bartholomew’s Hospital (Pott 1775, p. 34), with which he had “frequently-repeated experience” (Pott 1775, pp. 18): “I have sought and embraced every opportunity which a publick hosopital, a nd many years practice, have afforded me of operating in both ways”(Pott 1775, p. 39) Sometimes he performed discission of soft cataracts (Pott 1775, p. 28). Pott defended couching against the arguments against it, though he stated that either couching or extraction might produce good results: “Both operations are practicable by any man who has a hand and an eye” (Pott 1775, p. 21). However, his one-sided defense of couching is generally interpreted as indicating his preference for this procedure. Pott still cited William Read (Pott 1775, pp. 27-8). Pott was still seeing patients until he died in December 1788 (Kirkup, Pott 2004).

George Cook (1736). In 1736, “Mr. George Cook, Surgeon at Moshall, 5 Miles South of Linlithgow [Scotland] (who has lately invented a curious Instrument for totally removing Cataracts in the Eye, by a more easy, safe, and certain Method...) is sent for to the North by a Lady of Distinction, to couch her of a Cataract.”

George Key (1738). In 1738 in Dublin, George Key was listed as an “Occulist, The Weeping Eye, Essex Street, opposite Dempster’s Coffee House” (Dublin Directory 2000, p. 54). In 1747, “George Key, Surgeon” published in London a dissertation on mercury to treat venereal disease (Key 1747). Key had studied in France. He was familiar with the treatments used in Montpellier and Paris, and mentioned “my return from abroad” (Key 1747, p. ii-iii). He mentioned a man whom he cured of blindness from a “suffusion” by while in Paris: “with one bare operation I brought him to perfect sight” (Key 1747, p. lv) In December 1745, Key had been serving as a royal surgeon in Appleby-in-Westmorland treating the wounded from the Jacobite rebellion (Key 1747, p. 57). George Key subscribed as a surgeon in Derby in 1755 (Wallis 1988, p. 342).

Demaine Middlefell (1738). Demaine Middlefell, an “Optician in London” sold aphakic spectacles in Newcastle in 1738 (Middlefell Sep. 23, 1738).

Benjamin Huntsman (c. 1740). Benjamin Huntsman (1704-1776) initially settled in Doncaster, where he repaired metal-work. In addition, “he practiced surgery with dexterity, though after an empirical fashion, and was held in especial esteem as an oculist...but declined receiving any payment in return.”(Smiles 1863, p. 103)

Archibald Cleland (1740). Archibald Cleland (c. 1700-1771) performed an apprenticeship with James Robinson for 5 years, and then traveled to London in 1720 (Rolls 1984). Cleland worked as a dresser at St. Thomas’s Hospital (Rolls 1984). He then trained in Paris for 2 years at the Hotel Dieu (Rolls 1984). He returned to London in 1723, and obtained a job as a ship’s surgeon. He worked as a surgeon at a factory in Vera Cruz, and after 1726 in Carthage, followed by Jamaica (Rolls 1984). He returned to England in 1732, and while visiting the waters at Bath, presumably for his own health, began to work as a surgeon to the 3rd Dragoon Guards for 8 years (Rolls 1984). After 1741, he had a private practice in Bath until at least 1754 (Rolls 1984).

Cleland published the design for several cataract surgery instruments in 1740 (Cleland 1740). The first was a cataract needle with attached forceps, used “either to depress a Cataract; or, of it should be found of such a Nature as to bear to be taken hold of, then, by opening the Points, to engage it, and carefully bring it out of the Eye.”(Cleland 1740) His advocacy of extraction of cataracts before Daviel is noteworthy.

Cleland also designed a silver tube, so that if couching was complicated by hemorrhage, “it is so far introduced, as the End of the Tube is within the posterior Chamber of the aqueous Humour, the Needle is to be withdrawn, leaving the Tube in the Eye; and then, with the Mouth, may be sucked into the Tube, all the Blood, and watery Humour, that is contained there, or any other floating Particles. Then the Tube is to be withdrawn, and the Eye left to replenish itself with the aqueous Humour again; which will take Twelve or Eighteen Hours at most.”(Cleland 1740)

There is no proof Cleland performed any cataract surgery, or constructed the instruments he designed. His description of the time required to replenish the aqueous leaves open the possibility that he had some familiarity with cataract surgery. John Taylor and William Cheselden both visited Bath several times to perform cataract surgery during Cleland’s lifetime.

This idea of cataract aspiration never completely disappeared. In 1753, an English review noted that M. Olivier of France had designed an instrument he called a “Kenembatome” which permitted the surgeon “to apply the Syringe to the Tube, and suck out the Matter of the Cataract...”(1753, vol. 1, p. 115)

Joseph Paul (1741). Joseph Paul was the son of Josiah Paul (d. 1728), who had been appointed to St. Thomas’s Hospital in 1715 (Parsons 1932, p. 160, 186, 201). Joseph Paul was apprenticed to John Girle, surgeon, in August 1731 (Wallis 1988, p. 456). Joseph Paul was appointed to the hospital upon the death of surgeon James Feme in 1741 (Parsons 1932, p. 201). Student William Shippen, who trained at St. Thomas’s Hospital (Lloyd 2005,

p. 56), observed Paul couching 2 patients with cataract with Lewis Way in 1759 (Shippen, Corner 1951, p. 19). Paul resigned from St. Thomas's Hospital in 1760 (Parsons 1932, p. 218).

Thomas Gataker (1742). Thomas Gataker (d. 1768) was apprenticed for seven years to surgeon Isaac Rider at Barber-Surgeons' Hall, beginning in 1731 (James "Gataker" 1932). He was admitted to his freedom as a barber-surgeon in 1742 (James "Gataker" 1932). Gataker was a governor of St. George's Hospital, beginning in 1743 (James "Gataker" 1932). In 1749, Gataker published his translation of Le Dran's surgical treatise, accompanied by remarks and plates by William Cheselden. The text covered "fistula lacrymalis" (LeDran 1749, p. 356), but not cataract. Gataker was the surgeon at the Westminster Hospital from 1754 to 1760 (Langdon-Davies 1952, p. 263; James "Gataker" 1932). Gataker took several apprentices: William Walker in 1755, and Richard Bouchier in 1764 (James "Gataker" 1932). Gataker was surgeon at St. George's Hospital from 1760 until his death in 1768 (James "Gataker" 1932).

In his ophthalmic treatise of 1761, Gataker implied that before the popularization of planned cataract extraction, "the itinerant operator of our own country" (John Taylor) had extracted cataracts which accidentally subluxed into the anterior chamber during couching (Gataker 1761, p. 73). Gataker reviewed cataract extraction by the extracapsular technique, and pronounced that, as compared with couching, the results of extraction were "not equal to what was wished and reasonably expected" (Gataker 1761, p. 74). The iris could be damaged by the needle or by the crystalline lens, there could be hemorrhage from rupture of the ciliary processes, and eyes could be completely lost (Gataker 1761, pp. 74-5). Therefore "...the operation by depression, hitherto at least, seems preferable." (Gataker 1761, p. 76)

Towards the end of his life, Gataker observed Baron Wenzel successfully perform cataract surgeries, on the Duke of Bedford in 1767 (Wyman), and on a woman in 1768, the latter of which was also attended by Samuel Sharp (Wenzel 1791, pp. 146, 185)

Alexander Rose (1742). Surgeon Alexander Rose (1702-1778) studied with Boerhaave and took a medical degree at Rheims (French 2018, p. 99; Wallis 1988, p. 513). Rose was practicing at the Aberdeen Infirmary when it opened in 1742 (French 2018, pp. 91), and was listed as a physician subscriber from 1742 to 1762 (Wallis 1988, p. 513). Rose performed cataract couching at the infirmary about 50 times in the years leading up to 1753, and such patients typically stayed in the hospital for 5 weeks (French 2018, pp. 92). Rose took apprentices from 1730 to 1756 (Wallis 1988, p. 513). In the 2 years leading up to November 1754, 17 cataracts were couched at the Aberdeen Infirmary—with 7 "cured", 6 "relieved", 3 "incurable", and 1 patient still remaining at the infirmary at the time of writing (No author listed, November 12, 1754, p. 3).

Richard Kay (1744). Surgeon Richard Kay (1716-1751) had an interest in the eyes quite early in his career. In April 1740, as he followed his physician father in his hometown, Kay recorded:

“We have been concerned to Day for several Patients that have had Disorders in and near their Eyes; I cannot but be sensible how pretious and valuable our Eye-Sight is...”(Kay 1968, p. 34)

Kay was concerned that his own eyesight was not as strong as it should be, which he attributed in his case to excessive reading and writing by candlelight.(Kay p. 34) His first exposure to eye surgery was on the visit of John Taylor to Manchester on July 23, 1742:

“I was this Afternoon present at several Operations perform’d by Dr. Taylor from London the famous Occulist, as he advertises himself. Lord, May I be an Instrument of much Good in my Day.”(Kay 1968, p. 52)

Kay underwent formal surgical training at Guy’s Hospital. However, his hands-on exposure to eye surgery may have been greater with the itinerant Taylor than at the hospital. On October 26, 1743, Kay recorded: “This Day I attended the Hospitals; Mr. [John] Girle lectur’d to us upon the Eye.”(Kay 1968, p. 73) On November 16, 1743, “Mr. Sharp lectur’d to us upon the Coats and Humours of the Eye.”(Kay 1968, p. 74) On November 23, 1743, “Mr. Sharp lectur’d to us upon Vision.”(Kay 1968, p. 75)

On August 13, 1744, the devout Kay assaulted in the hospital a fellow student who defamed him:

“I box’d one of the Pupils to day in the Hospital and in the Theatre before Mr. Girle...he was the first Person as I remember that I ever struck in my Life; he charg’d me publicly tho’ in jest with debauchery of which I was innocent, and blessed by God I am innocent.”(Kay 1968, p. 87)

Shortly after this assault, the program decided Kay was ready to graduate, and return to his hometown. On August 22, 1744, we read:

“This Day I attended at Guy’s. Mr. Sharp Surgeon at Guy’s signed my Certificate to day as I am now in a little Time to leave the Hospitals...[August] 29...went with Mr. Steade to see my new Chirurgic Instruments, before they were sent Home. Lord, Give me Success in my Undertaking. [August] 30. This Day Mr. Sharp lectur’d to us upon the Parts belonging to the Eye. It was the last Lecture I shall hear amongst them...”(Kay 1968, p. 88)

On November 30, 1744, Kay couched the cataract of a young woman with a post-traumatic cataract:

“...in Darwen where I was to couch the oldest of Miss Baily’s for a Cataract in her right Eye...I couch’d Miss Baily...Friends seem’d satisfied with my Method of performing the Operation, which was agreeable to the Method now in Practice; but I fear we shall have but little Success in the Operation, the Cataract Proceeding from an Accident 18 Years since, has had frequent Uneasiness upon the Eye and a gradual Decay of Sight, has been dark of that Eye for 7 Years; and the Optic Nerve being so affected it has occasioned a Gutta Serena upon the left Eye that she has been quite blind for this last Year; an unhappy Accident.”(Kay 1968, p. 92)

The surgery was going to be done the day before, but he waited a day to give another doctor the opportunity to watch the surgery. That night, he lodged in the home of the patient's family. He never tried to couch another cataract. Kay died at the age of 35 years, along with both of his parents and two of his sisters in 1750 and 1751, possibly from an epidemic of "spotted fever" (presumed to be typhus) (Kay 1968, p. 4).

William Fabian (1745). "William Fabian, Surgeon" advertised in the Northampton Mercury on June 17, 1745 that he performed surgery for the stone, and also:

"For couching a cataract, I require no more than one guinea; and give my advice in all diseases of the eyes to ye poor gratis." (Wadd 1827, p. 252)

William Fabian subscribed as a surgeon and alderman of Northampton in 1757, and in 1761, took John Humphrey as an apprentice (Wallis 1988, p. 193).

Samuel Mihles (1746). Samuel Mihles dedicated his 1746 surgical treatise to John Ranby, and hailed Ranby's judgment (Mihles 1746, p. 91, 100). Mihles also frequently cited Cheselden and Sharp. In the ophthalmic chapter, Mihles wrote "In order to couch the Cataract...I take the Needle..." (Mihles 1746, p. 202)

E. Bromley (1747). From 1747 to 1749, "E. Bromley, Oculist" advertised in London that he had been practicing for almost 30 years (Bromley 1747, 1749).

Joseph Hilmer (1746). Joseph Hilmer was born in Hainburg (near Vienna) in 1719. He ran into more than his fair share of criticism of his skill, but still had some defenders and traditional surgeons who tried to learn from him. Much of his life has been known (Stenger 2014), but the fact that his trips to the British Isles included time in Scotland and Ireland has not been noted.

He practiced in Francfort-sur-le-Main as a "Chirurgicus Oculista" in 1746, noting that he had just cured the blind on a tour of Hungary, Austria, and Bohemia (Stenger 2014). He then advertised in Dijon in 1747, where he performed several cataract operations (Stenger 2014). He toured Germany beginning in 1748 (Stenger 2014). In 1748, Hilmer advertised in Paris that the Prussian king had made him an advisor and granted him a pension for his surprising cures (Stenger 2014).

In the winter of 1749, "the German Oculist Hillmer" couched the cataracts of many poor patients in London (O'Halloran 1750, p. 103). O'Halloran witnessed his practice there, and reported that many of the surgeries were unsuccessful (O'Halloran 1750, p. 103).

In 1749, a duke in Paris stated that Hilmer was about 28 years old, and was born in Vienna (Stenger 2014). Several witnesses there there hailed his surgical ability at couching cataracts, though others accused him of operating before the cataracts were mature (Stenger 2014). In August 1749, Hilmer departed for Geneva and Lyons (Stenger 2014). He then toured Switzerland, Madrid, Lisbon, Venice, Vienna, Prague, and Breslau (Wroclaw), before returning to Berlin in November 1750 (Stenger 2014). In 1751, he toured East Prussia, and then St. Petersburg, where he was evicted for operating without submitting to the required examination (Stenger 2014). From 1752 onward, Hilmer

typically remained in Berlin during the winter, and toured Europe during the summer (Stenger 2014). In 1756, he visited Spain, Portugal, and France (Stenger 2014).

In December 1758, Hilmer “restored many blind people to their sight, in presence of the gentlemen of the faculty...” in Edinburgh.(Bickerton 1913, p. 213)

Hilmer toured Groningen in 1760 (Huisman 1989) and Copenhagen and Stockholm in 1764 (Stenger 2014).

His death was falsely reported as occurring in Königsberg in 1765:

“We hear that Dr. Hilmer, the famous Prussian oculist, who some time since travelled thro’ England with great success in all disorders of the eyes, &c. died lately at Königsberg, very rich.”

John Hunter’s undated case notes debated the merits of cataract operation for a boy with early or moderate cataracts. Hunter argued for surgery before the lenses completely opacified on the basis that the boy was losing his education, and noted: “He was couched by Dr. Hillmer, a Prussian Oculist, with a round needle”(Hunter 1993, p 50-1).

It seems likely that Hilmer was in Berlin through much of 1768 (Henning 1989). On December 28, 1768, Hilmer announced that he was back in London after 20 years, and had recently restored to sight several born blind in Yorkshire (Hilmer Jan 2, 1769, p. 4). In February 1769, while in London, he claimed to be expert at operating both “by depressing, and extracting of the cataracts.”(Hilmer Feb 10, 1769, p. 2) In March 1769, Hilmer announced his imminent arrival in Salisbury (Hilmer March 20, 1769, p. 3).

On May 1, 1769, while in Leeds, Hilmer demonstrated couching using a small round needle for surgeons William Hey and James Lucas (Lloyd 2005, p. 35; Lucas 1784, p. 253).

Next, Hilmer made a tour of Ireland. On June 10, 1769, “Doctor Hilmer” had restored to sight one Mary Towson in Dublin (Hilmer June 10, 1769, p. 1). On June 29, 1769, “Dr. De Hilman” was in Cork, and “restored several blind people to sight yesterday in the presence of many spectators”. The next Cork Evening Post noted that he was the “Physician and Counsellor of the Court to the King of Prussia”.(Caulfield 1905, p. 146)

In September 1769, “Doctor and Professor Hilmer” arrived in Belfast for a week (Hilmer Sep 12, 1769, p. 2). A prison warden named William Mc. Quillen was cured of blindness by “Doctor Hillmer” in less than one minute after 7 years of blindness which had not been cured by both Irish and English doctors (Hilmer Sep 19, 1769).

Hilmer was last in Berlin in 1775, and his trail is lost in 1776 in Pest (Stenger 2014).

Another member of the family, Joseph Frédéric de Hillmer, practiced subsequently (Stenger 2014). In 1776, an advertisement in Groningen for a medical Hilmer stated “N.B. it is not the professor and counsellor Hillmer of Berlin”(Huisman 1989). Joseph Frédéric de Hillmer practiced in France and Antwerp from 1777 to 1809 (Stenger 2014; Huisman 1989). We did not find evidence that Joseph Frédéric traveled to the British Isles.

Sylvester O'Halloran (1749). Sylvester O'Halloran (1728-1807) was from Limerick. In 1745, he traveled to London, and considered going north to join the army of Bonnie Prince Charlie (Lyons). Next, O'Halloran studied surgery at universities in Paris and Leyden (Lyons 1989). He returned to Limerick by 1749 (Lyons 1989), and was listed as a surgeon there from 1751 to 1787 (Wallis 1988, p. 441).

On March 20, 1749, O'Halloran successfully couched the cataract of a woman of Limerick whose cataract had been deemed incurable by John Taylor (O'Halloran 1750, p. 28). O'Halloran criticized the couching technique of Joseph Hilmer, which he had seen the previous winter (1748/1749) in London (O'Halloran 1750, p. 103). However, O'Halloran thought John Taylor's technique was good, though a little drawn out. O'Halloran saw Taylor couch at least 30 cataracts (O'Halloran 1750, p. 104-7). In the winter of 1749, O'Halloran saw a boy from London whose cornea had been pierced with an awl, producing an opacity of the crystalline lens. Taylor removed the opacity in Exeter shortly afterward (O'Halloran 1750, p. 112).

O'Halloran wrote a treatise on cataract extraction in 1755, in which he noted that he had been reluctant to perform cataract couching in the right eye due to the difficulty of operating with the left hand (O'Halloran 1755, p. 30). He also noted that Daviel's method of cataract extraction had been used by surgeons Dillon and Rooney in Dublin (O'Halloran 1755, p. 33). O'Halloran mentioned some experiments he had performed on animal and human eyes (O'Halloran 1755, p. 10-31). In his small city, O'Halloran had only a few opportunities to perform cataract extraction (O'Halloran 1755, p. 33).

William Stork (1751). William Stork (d. 1768) was an oculist whose claim to fame is that he was the first to practice in the Atlantic colonies that became the United States, beginning in 1761. The key mystery regarding Stork is where he came from. Some of have said he was German (Rogers 1976; Laurens 1978, vol. 6, p. 73), but we make the case that he was more likely from Northern England. Of his background and family, we only know that he referred to himself as a loyal British subject, and had a son also named William.

Stork suddenly appeared in the historical record with his 1751 appointment in London as the oculist to the Princess of Wales. "William Storck, M.D." was still listed as the "Occulist" to Princess (Augusta) of Wales in 1752, and again in 1754.(No author listed, Registry, 1752, p. 50; No author listed, Registry, 1754, p. 49).

In 1736, when 16-year-old Augusta of Saxe-Gotha (1719-1772) traveled from Germany to England to marry Prince Frederick (Livingstone 2015, p. 164; Berridge 2015, p. 100), she spoke no English (Livingstone 2015, pp. 164-5; Berridge 2015, p. 101). According to Lord Egmont and Sir Edward Southwell, the young princess was "much pitted with the small pox" (Percival 1923, vol. 2, p. 263; Berridge 2015, p. 101). Although smallpox could cause corneal or eyelid scarring, the prince drafted *The Charms of Sylvia*, a poem about the princess which suggested nothing of the sort (No author "Walpole's" 1822, p. 223):

'Tis not the liquid brightness of those eyes,/ That swim with pleasure and delight,/ Nor those heavenly arches which arise / O'er each of them to shade their light...

Prince Frederick had appointed Stephen Beaumont as his oculist, but shortly after Frederick's death in March 1751, Princess Augusta appointed William Stork as her oculist, a position he held through 1754 (Registry 1752, p. 50; Registry 1754, p. 49). Her court did not require an oculist in other years (Registry 1749, p. 39; Registry 1750, p. 40; Registry 1755, pp. 48-49; Registry 1760, pp. 47). The appointment might have related to sequelae from smallpox, or perhaps a new eye problem. It is interesting that a portrait of the princess from 1754 seems to show slight ptosis of the right eye. In her late thirties, when latent hyperopia might present, the princess' court listed Thomas Ribright as her "optician" (Registry 1757, pp. 51; Registry 1759, p. 51).

As Stork later wrote on botanical matters, it should be noted that Augusta also had an interest in botany. Prince Frederick had leased Kew House and developed the neighboring gardens since 1730 (Thiselton-Dyer 1891). After his death in 1751, the Princess Dowager lived at Kew and provided the Kew Gardens with a scientific botanical character (Thiselton-Dyer 1891). These later became the Royal Botanic Garden (Livingstone 2015, p. 199). Augusta was interested in the medicinal and economic value of the plants in her collection (Berridge 2015, p. 11). Although Stork's official appointment was brief, he would advertise his association with the Princess for the remainder of his medical career.

Stork practiced as an oculist in Northern England and in Ireland during the 1750s. The Belfast Newsletter recorded on April 3, 1753 (Stork Apr 3, 1753; page 2) (Greene 2013) that in Dublin on March 31 "Six poor blind Men were couched in the presence of several Physicians and Surgeons, by Doctor Stork, oculist to the Princess of Wales, and all of them received their sight." (Stork April 3, 1753). The same paper recorded on September 25, 1753 (p. 3) that Stork was treating eye disorders in Belfast and Lisburn (Greene 2013).

By September 1756, "Doctor Stork, Occulist to her Royal Highness, the Princess of Wales" was back in England, arriving in Leeds at the end of the month (Stork Sep 28, 1756). In December 1758, "Dr. Stork, Oculist to her Royal Highness the Princess of Wales" had brought several hundred to sight in Yorkshire, and had just arrived in Newcastle. (Stork December 23, 1758)

Historian George C. Rogers Jr. (1922-1997) and others have written that Stork was German (Rogers 1976; Laurens 1978, vol. 6, p. 73). Rogers speculated that Stork may have served at a field camp operated by the British army in 1759, and subsequently been introduced to the founders of the East Florida Society of London by army contractors who had served in Germany with the Marquis of Granby (Rogers 1976; Laurens 1978, vol. 6, p. 73). However, the reference cited by Rogers does not mention Stork at all (Taylor "Marquis" 1759).

Rogers did not realize that Stork was an oculist, and that Stork's time in the 1750s was accounted for in London, Northern England, and Ireland, while in the early 1760s, Stork was already in America pursuing his practice as an oculist.

Stork advertised as an oculist in Jamaica in 1760, and then, between Annapolis and Massachusetts, from 1761 to 1763 (Leffler "Anglo-America" 2015). Stork advertised in the German-language *Pensylvanische Berichte* on Nov 20, 1761. This advertisement was

translated for us by Hans-Reinhard Koch. Stork called himself “Doctor Storch” (Storch being the German word for stork), and indicated that he was the oculist to the Princess of Wales, and had arrived from London. He did not advertise that he was from Germany, even to a German audience (Hans-Reinhard Koch, personal communication, 2016).

Stork then decided to switch careers, and act as a plantations agent in Florida.

On March 6, 1766, Stork presented to the Board of Trade the idea of settling Germans and other protestants in Florida (Laurens 1978, vol. 6, p. 74). During 1766, Stork published 3 pamphlets promoting Florida settlement (Laurens 1978, vol. 6, p. 74). Lord Adam Gordon, president of the East Florida Society, wrote in May 1766 “Doctor Stork’s Pamphlet has sett us all Florida mad.” (Laurens 1978, vol. 6, p. 74). Stork was generally accused of inflating the promise of Florida, but Laurens accused him of the opposite, writing in November 1767, “I hope you have found East Florida in all respects far surpassing the Malrepresentations of Doctor Stork & that Tribe of Evil Speakers who have without Knowledge depreciated the Value & Virtues of that Country, perhaps from selfish Motives, to secure large possessions to themselves...” (Laurens 1976, vol. 5, p. 471).

Accurate or not, Stork’s Florida journal went through four editions. At his request, the Board of Trade agreed in September 1766 to furnish Stork with John Bartram’s journal from his survey of East Florida (Board of Trade 1936). In January 1767, South Carolina planter Henry Laurens described Stork’s work as “his Apocrypha” (Laurens 1976, vol. 5, p. 226).

Many in parliament were granted land (Laurens 1978, vol. 6, p. 74). Stork volunteered to survey the lands to be distributed and to settle the properties with white Protestants from Germany and the south of France (Laurens 1978, vol. 6, p. 74).

Stork was the agent for Charles Townshend, John Tucker, Sir Alexander Grant, Sir Archibald Grant, Duncan Grant, the Earl of Bessborough, the Earl of Cassillis, and the Hon. William Beresford (Laurens 1978, vol. 6, p. 74).

In May 1767, Stork was personally granted 20,000 acres in East Florida (Laurens 1976, vol. 5, p. 465).

Stork left for Florida in the summer of 1767, carrying with him in the Aurora his son, William Storke, Jr. (Laurens 1978, vol. 6, p. 74). They were at Cork in Ireland on their way out on Aug 18, 1767 (Laurens 1978, vol. 6, p. 74).

Overall, Stork seemed to be poorly suited for the work. Lord Adam Gordon wrote to James Grant that Stork was “as fond, of too many Irons in the fire, as I am.” (Laurens 1978, vol. 6, p. 74). In February 1768, a colleague noted that Stork believed that he could build huts from bunches of threes in three or four days (Laurens 1978, vol. 6, p. 74). On May 15, 1768, Stork wrote Alexander Grant that he had laid out tracts for the Grant family around Lake Grant, named in their honor (Laurens 1978, vol. 6, p. 74). Stork had a dispute about goods with ship captain William Fuller, and had a bill which Alexander Grant refused to pay (Laurens 1976, vol. 5, p. 528-9). In a January 1768 letter to planter John Moultrie,

Laurens referred to some discord: "I am sorry Doctor Stork or any body shou'd be so foolish. Such squabbles tend to break the Harmony of a little Family as your Town Augustine may be call'd."(Laurens 1976, vol. 5, p. 570).

In 1766 or early 1767, Stork petitioned King George III to provide a ship so that Stork could transport Germans to settle Florida (Stork "Petition" 1767):

"To His Most Excellent Majesty the King in Council.

The Petition of William Stork.

Humbly Sheweth. That the Settlement and Improvement of Your Majestys Province of East Florida has been very much retarded through want of White Inhabitants, and by

the Difficultys Foreign Protestants are under to transport themselves thither. That Your Petitioner by his Connexions and Influence in Germany has an opportunity of engaging a Number of Industrious Germans to Settle in Your Majesty Province of East Florida. But that the transporting these Germans will necessarily be attended with an Expence too great, to be undertaken by a Private Person, unless he Shall receive some Assistance from government. Your Petitioner therefore most humbly prays That your Majesty, will be most graciously Pleased, to order and direct, That one of Your Majestys Sloops of War in Ordinary, which has been deemd unfit for public Service, may be deliverd to your Petitioner or his Agent to be employed by him in transporting German Settlers to the Province of East Florida. Your Said Petitioner undertaking to Man, Victual, and keep the Said Sloop in Repair, during the time She Shall be employed in the above mentioned Service. And Your Petitioner shall ever pray / William Stork."

Stork briefly mentioned "raising sugar, or other articles there, by the help of [blacks]." In fact, slave labor was central to the new colony, and Stork was deeply immersed in this business. In November 1767, Henry Laurens wrote Stork that he would purchase and send "10 New [blacks]" to be used for John Tucker's lands (Laurens 1976, vol. 5, p. 466). Laurens wrote Stork again in December to explain that Laurens made no purchases at the "Sale of [blacks]" because he "...found them to be scourgings of some mean person or other who had worked & whip'd them almost to death & then became desirous of obtaining great prices for bad Wares."(Laurens 1976, vol. 5, p. 506) Finally, in January 1768, Laurens wrote Tucker "I have lately purchas'd on your Account to be sent to Doctor Stork, at East Florida 14 [blacks] who have been us'd to Plantation Work & some of them very fine fellows. 11 Men & 3 Women." The cost along with provisions was "six Hundred Pounds Sterling." Laurens added: "I have a Letter this day from Doctor Stork in which he complains heavily for want of some seasoned [blacks] to incorporate with others that are quite unacquainted with Plantation Business."(Laurens 1976, vol. 5, p. 555-6) Laurens purchased "...a Young Man & his Father, rather than separate them...the Father is a hearty old Fellow & may yet make a good hand in the Field for seven Years, perhaps longer in a Warm Climate."(Laurens 1976, vol. 5, p. 556) Laurens noted "One of them a very clever fellow run away immediately to avoid going from Carolina."(Laurens 1976, vol. 5, p. 555-6) Laurens again held in captivity this runaway before the end of the month (Laurens 1976, vol. 5, p. 568). Laurens explained to Stork "Not knowing whether you have Plantation Tools or not, & considering the [blacks] as useless without I have deliver'd a broad Hoe &

an Axe to each, which if not wanted for them may be sold for the cost; & I have also given a few Cloths amongst the whole to encourage them to go away chearfully as well as because such was necessary for them.”(Laurens 1976, vol. 5, p. 573)

In a December 24, 1767 letter to Stork, Laurens alluded to Stork’s disappointment with the production: “Your doubts...and the bare admission of a Possibility of being disappointed in your expectations upon Sugar, wou’d incline one to believe that a Gentleman of your Name who sometime ago published an account of East Florida, had been rather too sanguine in his representations of the Country. But a plentiful Crop of Canes next Year will remove all your doubts, if you shall have any remaining after the last week’s Frosts. They have been very severe in this Town but I hope you have not felt such at Musquito, if you have, I shall charitably conclude that Mr. Stork the Author had not spent many Decembers in East Florida before his Publication.” (Laurens 1976, vol. 5, p. 526).

Dr. Stork died on August 23, 1768 at Mosquito Inlet (Laurens 1978, vol. 6, p. 74). On Sep. 2, Spencer Man wrote John Tucker “ ‘tis reported he was ill of a fever there & hearing there was a Mutiny amongst some of Dr. Turnbull’s Settlers, went into convulsions, in which he continued two days, & then expired.” In December 1768, John Tucker told Grant that Dr. Stork had not been very fit (Laurens 1978, vol. 6, p. 74). Richard Oswald in May 1769 wondered if Stork’s account of Florida was “hypocryphal” (Laurens 1978, vol. 6, p. 74). On Aug. 2, 1769, Alexander Grant wrote James Grant that Stork had “Insinuated himself Into a Degree of Estimation with all the concerned in East Florida.” On Feb. 20, Alexander Grant wrote that Stork had been “Specious Enough” (Laurens 1978, vol. 6, p. 74).

Much of Stork’s Florida work related to plant life. Some sources state flatly that he was a botanist (Laurens 1976, vol. 5, p. 465) and a member of the Royal Society (Laurens 1976, vol. 5, p. 465). Stork clearly had an interest in botany, and it would not be unprecedented for physicians of that era to have formal credentials in the natural sciences (Leffler, Wainsztein 2016). Nonetheless, we are not aware of primary sources which confirm any formal credentials in botany for Stork.

The family name Stork is common in Northern England, while “Storck” is common in Germany. Although Stork claimed to have connections to Germany, historians have not found any evidence placing him there. In contrast, we know that Stork spent significant periods of time practicing in Northern England, wrote his name “Stork”, and acted as a loyal British subject. The current evidence suggests that he was English.

Cusack Roney and James Dillon (1753). Cusack Rooney was listed as a surgeon of Dublin by 1750 (Wallis 1988, p. 512). In 1753, Cusick Roney and James Dillon were surgeons and two of the cofounders of the St. Nicholas’ Hospital, or the new Charitable Infirmary, Cole’s alley, off Meath-street.(Cameron 1886, p. 368). In 1755, Sylvester O’Halloran recorded that Daviel’s method of cataract extraction “...has been practiced with Success, by Messieurs Dillon and Rooney, Surgeons of Repute and Experience in Dublin”(O’Halloran 1755, p. 33). Dillon was still practicing at St. Nicholas Hospital in 1783, though Roney was no longer listed (Johnson 1783, p. 168). Dillon was listed as a surgeon there in 1787 (Wallis 1988, p. 166), and died in 1800 (Taylor 1829, pp. 49-51).

John Hunter (1754). John Hunter (1728-1793) was born near Glasgow (Hunter 1993, np). In 1748 he traveled to London to work at the anatomy school run by his brother William Hunter (Hunter 1993, np). He obtained surgical training in about 1749 with William Cheselden (d. 1752) at the Royal Hospital at Chelsea, and in 1750 under Percivall Pott at St. Bartholomew's Hospital (Hunter 1993, np; Gruber 2010). In addition, Bromfield taught John Hunter at St. George's in 1754, where Hunter was a house surgeon for 5 months in 1756 (Morgan 1967). John Hunter continued to work at the anatomy school until 1759 (Hunter 1993, np). He was examined by the Company of Surgeons, and in 1760, began service as a military surgeon in Belleisle and Portugal (Hunter 1993, np). He returned to London in 1763, where he established a private practice, and then in 1768 was appointed a surgeon at St. George's Hospital and became a member of the Company of Surgeons (Hunter 1993, np; Gruber 2010). Hunter taught numerous surgeons: Astley Cooper of Guy's Hospital, John Abernethy of St. Bartholomew's, Cline of St. Thomas's, Anthony Carlisle of the Westminster Hospital, William Blizard, and Edward Jenner (Hunter 1993, np; Gruber 2010). His American students included William Shippen and Philip Syng Physick (Hunter 1993, np).

In 1783, he bought a house in Leicester Square so that he could have resident anatomy students (Hunter 1993, np; Gruber 2010).

In his case notes, Hunter described a cataract extraction performed by William Bromfield (case 61, see above, Hunter 1993, p. 49). Hunter also advocated surgery for cataracts in a boy, and the operation was eventually performed by the itinerant Hilmer (case 63, see above, Hunter 1993, p. 50-1). Hunter described bilateral cataracts in "Mr. Fricker of Salisbury", with the right eye worse (case 71). He wrote "I couched him in that eye". One week later, the pupil was clear and he could see, but had sensitivity to light. The pupil in the right eye was miotic (Hunter 1993, p. 56).

At St. George's Hospital, Hunter operated on a 4-year-old boy who had had bilateral cataracts for two years (case 75). Hunter first attempted to couch the cataract in the left eye. The iris was somewhat "wounded" and a milky fluid came out of the lens. After a repeat couching, the pupil was reasonably clear, but the vision was no better. Hunter then attempted to extract the cataract in the right eye. He passed a knife into the anterior chamber and inserted a needle into the capsule, and again a milky substance emanated from the lens. He squeezed the eye to enable a "curdly substance" to pass through the incision. During the operation: "there still remained an opacity at the upper part of the pupil, which I took to be an opaque Capsula; and which I endeavoured to extract with a pair of forceps, but could not". (Hunter 1993, p. 59-60) About three weeks postoperatively "the milkiness still continued in the pupil, and then it was difficult to say whether he had received any benefit or not." (Hunter 1993, p. 59-60).

John Smith (1725). "Mr. J. Smith" was an "Oculist of Coventry" in 1725 and 1757 (Wallis 1988, p. 551; (Mason 1757, p. 30-2). In 1754, "Dr. John Smith" and John Taylor were the "Oculists" to the House of Commons (No author listed, Court and city register 1754, p. 81).

Celebrious Raynes (1754). On November 30, 1754, "Dr. Reyne, a Dutch operator" announced his arrival in Felix Farley's Bristol Journal. He cured deafness (Jonathan

Barry, personal communication, 2019). On January 19, 1760, Dr. Raynes, an oculist and operator for the ears, advertised his presence in Bristol in Felix Farley's Bristol Journal. He performed the operation for an artificial pupil (Jonathan Barry, personal communication, 2019).

By 1761, he had moved to London:

"Celebrious Raynes, M.D. Oculist and Aurarist...when Couching or Depressing have failed, as he extracts with Ease in some Patients those exotic Bodies commonly called Cataracts..."(Raynes January 6, 1761, p. 3)

He noted that he "has invented an artificial pupil, and also an artificial Ear, whereby many Persons that are deem'd incurable may see and hear to great Perfection, without Inconviency or Pain."(Raynes March 6, 1761, p. 3)

By July 1763, he was practicing in Ipswich, and emphasized treatment of deafness (Raynes, July 9, 1763, p. 3). In 1764, he advertised in Derby that he had just been to Nottingham, that he was "Graduate Aberdeen". He had cured many of deafness, and many of blindness, some who were born blind. He invited the faculty to attend his operations (Raynes Oct 19, 1764, p. 4). He was still practicing in the North of England from 1765 through 1767.

In 1772, he was going to leave his home in London to visit Bath.(Raynes Nov 26, 1772) Celebrious Reynes, an oculist and aurist, announced his arrival in Bristol in the September 19, 1772 editions of both the Bristol Journal and Felix Farley's Bristol Journal (Jonathan Barry, personal communication, 2019).

In 1784, "Dr. Raynes...the first Oculist and Aurist in England, who was formerly an anatomical student of Christ College, Oxford" was visiting Bath from his home in London (Raynes Apr 15, 1784).

R. Phillips (1754). Mr. R. Phillips, a surgeon, lived in Colchester, according to the Ipswich Journal of August 10, 1754 (Bensusan-Butt 2010, vol. 2, p. 84). His advertisement in the Ipswich Journal of December 28, 1754 indicated that he had moved to Sudbury: "He couches Cataracts in the Eyes and cures all curable Distempers incident thereto, as also Dullness of Hearing; he likewise cuts for the Stone...and all manner of Ruptures..."(Bensusan-Butt 2010, vol. 2, p. 84)

Joseph Higgs (1755). Joseph Higgs, surgeon of Birmingham, proposed couching of the lens for the treatment of myopia in 1755:

"Some Years ago, I proposed to Dr. [John Theophilus] Desaguliers [d. 1744], a Method for relieving near-sighted Persons, by depressing the Crystalline Humour, as in couching; inasmuch as, when that Medium is removed, one of a less Density will succeed, which will supply the Place of Glasses. But the Experiment I have never as yet tried."(Higgs 1755, p. 38)

His book was dedicated to John Belchier, surgeon of Guy's Hospital and F.R.S. Higgs indicated they had trained together under the recently deceased William Cheselden.(Higgs

1755, np) Indeed, Belchier completed part of his apprenticeship under Cheselden, from December 1724 to about 1728 (Cope 1953, p. 94).

Joseph Higgs took numerous surgical apprentices in Birmingham: Thomas Birch in 1730, William Waldren in 1731, John Hodgette in 1742, and John Barker in 1745 (Wallis 1988, p. 287). A Joseph Higgs, son of John Higgs of Evesham, was listed as an apprentice apothecary in Tewkesbury in 1716 (Wallis 1988, pp. 23, 287).

Higgs probably would have had the opportunity to speak with Dr. John Theophilus Desaguliers (d. 1744) while Higgs was training in London, i.e. before he became established in Birmingham in 1730.

Thomas Young (1756). Thomas Young (d. 1783) was listed as a surgeon in Edinburgh by 1754 when he took his first apprentice (Wallis 1988, p. 677). In 1756, Thomas Young reported six cataract extractions he performed at the Royal Infirmary at Edinburgh. He had previously tried couching a few times: “I have couched but few in the old way, and those with such bad success, that I was fully determined to operate no more on the eyes.”(Young 1756, p. 324) Young’s report indicated that his extractions were successful. Young did “open the capsula of the crystalline lens”(Young 1756, p. 324), i.e. extracapsular extraction. Young was listed as a professor of midwifery in Edinburgh from 1773 to 1783. Benjamin Bell reported in 1785 that: “The late Dr. Young of this place, who practiced surgery for a considerable time with much reputation, had at one period a very high opinion of this operation [extraction]...he gave an account of his success in six cases in which he had operated a few months before...but in a conversation with the Doctor on this subject a good many years afterwards, I found his opinion much changed...vision was restored immediately on the removal of the cataract; but in nearly the whole of them the sight began to be impaired in a few months from the operation...till total blindness was at last produced”.(Bell 1785, vol. 3, pp. 465-6)

Lewis Way (1757). Lewis Way, son of James, began an apprenticeship with William Pyle, surgeon, in November 1746.(Wallis 1988, p. 634) Way was a surgeon at Guy’s Hospital from 1757 to 1773 (Wilks 1892, p. 198). On August 25, 1759, student William Shippen of Philadelphia, on a visit to London, recorded in his diary “. . . saw Mr. Way and Paul couch 2 men in old way by depression.”(Shippen, Corner 1951, p. 19)

Laurence Sully (1758). On January 16, 1758, Dr. Selley appeared for the first time on a stage in Bristol, according to records at the Bristol Archives Office (Jonathan Barry, personal communication, 2019).

In May 1762, we find advertised in Bath:

“Dr. Laurence Sully, Surgeon, Oculist, Dentist, and Operator for the Ears...cures Cancers of all Kinds in any Part of the Body, without Incision; the King's Evil...Wens in the Throat...dispersed by Medicines only...likewise those that are blind, or have weak Eyes. He also cures the Venereal Disease...without Mercury or any confinement, and even without the knowledge of a bed-fellow...Mrs. SULLY is always at Home, to attend Ladies for all Disorders incident to the Fair Sex...Mrs.

Durham, Wife of Mr. James Durham...who was blind a considerable time...on applying to Dr. Sully, was cured of her Blindness...”(Sully May 31, 1762)

According to the Bristol Journal of Feb 27, 1773, Dr. Sully would regularly rotate through Bristol to practice. In Bath on March 29th, 1773, we again find the advertisement of “Dr Laurence Sully, Surgeon, Oculist, Dentist, and Operator for the Ears”. He advertised his cures in the Bristol Journal of May 7 and September 3, 1774 (Jonathan Barry, personal communication, 2019).

William Stephens (1758). William Stephens of Plymouth or Devonport, alive in 1758 or 1759, was said to be “an oculist of some fame in his day” (Bannerman 1908, vol. III, Part 1, p. 139).

Dr. Perrin (1759). On August 11, 1759, Felix Farley’s Bristol Journal announced the arrival of Perrin, an oculist from London. On January 12, 1765, Felix Farley’s Bristol Journal noted that Mr. Perrin had been in the French and then the allied army. The Bristol Journal of April 27, 1765 listed the cures of Dr. Perrin (Jonathan Barry, personal communication, 2019).

Christian Bosenberg (1760). “Christian Bosinberg” was described as the “Oculist to the Princess of Wales” in 1760 (Grant 1760, p. 38). The daughter of “Mr. Bosenberg, Oculist, of Bury-Street” was married in January 1769.(Bosenberg 1769, p. 3) In July 1772, “Doctor Bosanberg, an eminent High German Doctor, Oculist, Cupper, and Surgeon” prevailed in a suit against an estate for an old unpaid bill (No author, July 14-16, 1772, p. 4).

Joseph Rouviere (1762). The oculist Joseph Rouviere (d. 1790) had studied at Paris with the Baron Wenzel (Rouviere Mosse, vol. I, 1826, p. 162), whose ophthalmology career began in about 1745 (Wyman 1991).

Rouviere was active in the British Isles from 1762 to 1790. According to Felix Farley’s Bristol Journal of June 26, 1762, “S. Rouviere, Occulist” treated “Disorders in the Eyes, such as Webs, Abscess, Cataracts, &c.” while “at Knowle, where he is detained a Prisoner of War”.(Rouviere, June 26, 1762). This prison, near Bristol, held French Acadians who had been evacuated from Nova Scotia in 1755 (Vinter 1957). It is not known if Rouviere had been to New France.

Rouviere was apparently released by January 1764, when he began touring England with one Mr. Miller, who had practiced in general physic for 20 years in “this Kingdom” (Britain).(Rouviere Jan 13, 1764, p. 4). They advertised in Derby that they had just come from Leicester, and introduced “Mr. Rouviere, a regular bred Oculist from Paris.”(Rouviere Jan 13, 1764, p. 4) Rouviere promised not to leave until the cure was complete, and explained that he performed extraction of the “Christalline” in the manner of his teacher, Daviel.(Rouviere Jan 13, 1764, p. 4). Rouviere invited the faculty to attend his operations, and announced a public performance of lens extraction on an animal eye, along with its dissection (Rouviere Jan 13, 1764, p. 4). In March 1764, Rouviere advertised that he was glad that the Chevalier Taylor was visiting town, so that people could make a head-to-head comparison of both oculists (Rouviere March 16, 1764, p. 1).

By 1765, Rouviere and Miller had parted ways. In June 1767, an apothecary who worked at the Manchester Infirmary noted that he had “attended on Mr. Miller, the celebrated Oculist, during his stay...in Salford, in all his Operations on the Eye.”(Walton June 2, 1767, p. 2) In September 1769, “Mr. Miller, a regular Oculist, who has operated by extracting the Chrystalline Humour, or Cataract, with repeated success in Whitehaven” advertised in Newcastle.(Miller September 30, 1769)

In July 1765, “Mr. Roviore, regular bred Occulist, from Paris, but lately from Corke” advertised in Dublin, that he could extract the crystalline. Rouviere set down roots in Dublin, and advertised there regularly. By February 1769, “that celebrated Oculist M. Rouviere” had practiced in Dublin for 3 months, successfully restoring 19 of 20 blind patients who applied to him for care.(Rouviere Feb 4-7, 1769, p. 2) He operated with just one instrument in less than a quarter of a minute. Some “gentlemen of the Faculty” had attended his operations.(Rouviere Feb 4-7, 1769, p. 2) In September 1769, he performed cataract extraction on Sir James Taylor, who had been the mayor of Dublin in 1765 (Rouviere Sep 1769).

By May 1774, he claimed to have extracted cataracts from 800 patients in the Kingdom, and treated 2000 other patients (Rouviere May 2, 1774, p. 1).

In November 1775, “Joseph Rouviere, Surgeon Oculist” requested of the House of Commons of the Kingdom of Ireland that “by his peculiar Method of extracting the Glaucoma (or Cataract) has restored no less than nine hundred poor Persons to their Sight, and upwards of two thousand four hundred afflicted with various Disorders of the Eyes have also been relieved by him” (House of Commons 1776, vol. 17, pp. 107-8). Rouviere requested financial aid from the government (Rouviere Nov 14-18, 1777).

Until the end of his practice, when he became more infirm, Rouviere would regularly tour the northern part of Ireland in the summer. In June 1780, “Mr. Rouviere, Oculist” arrived in Belfast from Dublin, intending to stay for one month (Rouviere, June 20-23, 1780). In September 1781, Rouviere returned to Dublin from his tour of the island (Rouviere Sep 25, 1781, p. 1).

In 1783, Joseph Rouviere was listed as the only oculist in Dublin, and was located at 2 gr. Ship St. (Treble Almanack 1783, p. 91). In October 1783, he announced that the large numbers of poor patients asking for assistance required him to restrict their visits to Monday and Friday mornings.(Rouviere October 3, 1783, p. 3)

In July 1784, he announced that he would not make his usual country tour, as he had been required to remain in Dublin earlier in the summer due to “Law-suit now concluded to his honour”(Rouviere July 27, 1784, p. 1). In 1787, he had some sort of illness, but was still sometimes able to operate for cataracts (Rouviere July 5, 1787, p. 2).

Rouviere died within 11 days of Baron Wenzel (Rouviere Mosse, 1826, vol. 1, p. 241), that is, in 1790.

George Dove (1764). In 1742, George Dove, son of Roger, was apprenticed to William Rayne, surgeon of Winlaton, Durham (Wallis 1988, pp. 172, 494). In 1764, “Mr. George

Dove, oculist in Sunderland, was married...to Mrs. Radcliff...an agreeable young widow, with a handsome fortune.”(Dove December 15, 1764, p. 2) The George Dove, MD, who practiced as a medic in Nottingham in 1776 may be unrelated (Wallis 1988, p. 172)

Baron Wenzel (1764). Baron Wenzel was in London in 1764,(Wenzel 1791, p. 274) 1765,(Wenzel 1791, p. 203) 1766, 1767 (Wyman), 1768,(Wenzel 1791, p. 145) 1769, 1770,(Wenzel 1791, p. 30), 1772, 1780, and 1783 (No author listed, list of the society, 1766, p. 83; No author, court and city register 1780, p. 74; No author, medical register, 1780, p. 49; No author listed, medical register, 1783, p. 31).

Wenzel had begun his itinerant practice by 1758, when he advertised in Groningen (Huisman 1989).

In 1764, Wenzel performed an iridectomy in London in the presence of the surgeon Mr. Middleton, who had served with the English army (Wenzel 1791, p. 275). In October 1764, Wenzel extracted six cataracts in one night in Harwich, as he departed for Germany (Wenzel October 27, 1764, p. 3).

In London in 1767 (Wyman paper), Wenzel successfully performed bilateral cataract extractions on the Duke of Bedford, in the presence of Thomas Gataker (Wenzel 1791, p. 184). (Wenzel’s son erroneously stated the surgery was in 1765 (Wyman)). In 1768, Wenzel successfully performed bilateral cataract extractions on a woman in whom the cataracts were adherent to the iris, in the presence of surgeons Samuel Sharp and Thomas Gataker (Wenzel 1791, p. 146). In December 1767, he announced that he was going to proceed through York and Newcastle, arriving in Edinburgh by January (Wenzel December 12, 1767).

In 1769, Wenzel operated in Paris (Wenzel 1791, p. 28).

Wenzel was in Edinburgh in May 1769 (Taylor 1978). Professor Alexander Monro (secundus) spoke of Wenzel demonstrating the cataract operation in his lecture of 1770 (Taylor 1978). Monro demonstrated cataract surgery in cadavers, but it is not clear from his lecture notes that he would have performed the procedure in living patients (Taylor 1978).

In 1770, Wenzel also visited London, where he extracted the cataract of a man named Percival who had previously been couched twice by other surgeons (Wenzel 1791, p. 30-2).

In 1771, he provided an apartment in London for his charity cases from out of town.(Wenzel June 10, 1771)

In 1773, “Baron de Wenzel, Oculist to His Britannic Majesty” extracted the congenital cataracts of the four-year-old son of a bank director named S. Bosanquet of Layton in Essex, who testified that “the sight is perfectly obtained”, according to the Williamson’s Liverpool Advertiser of July 22, 1773 (Bickerton 1913, p. 213).

Wenzel’s opinion seemed to be respected by established surgeons. John Hunter’s notes described the undated case of “Rev. Mr. Winstanley of Oxford”, about 30 years of age.

Hunter wrote “There was at first no opacity to be observed, even by Baron Wenzel”.(Hunter 1993, p. 75) Later, Winstanley developed cataracts, worse in the left eye (Hunter 1993, p. 75). He had afterimages in both eyes, and the right eye became less myopic (Hunter 1993, p. 75). If this description is of Thomas Winstanley (1749-1823), a historian and doctor of divinity at Oxford (Carlyle 2008), then Hunter’s report would date to about 1779.

Wenzel spent portions of 1780 in Edinburgh, and planned to stop in Newcastle on his way back to London (Wenzel August 19, 1780, p. 3).

In June 1782, the Baron arrived in England, and was available to extract cataracts at his house in London (Wenzel June 22, 1782, p. 3).

He also performed cataract extractions in London in 1783 (Wenzel 1791, p. 171).

Jonathan Wathen (1764). In 1745, Jonathan Wathen (c. 1728-1808) began an apprenticeship with his older brother Samuel, who in turn had performed an apprenticeship in Bristol in the 1730s (Hayward 2014, pp. 4,7). The elder Wathen was first a surgeon, and then earned a medical degree from Aberdeen in 1753 (Hayward 2014, p. 4), and practiced as a physician in Dorking, Surrey from 1755 to 1758 (Wallis 1988, p. 631).

It is presumed that Jonathan Wathen took over his brother’s practice in London while the brother trained in Scotland (Hayward 2014, p. 7). Jonathan Wathen was listed as a surgeon in Walbrook, London by 1755 (Wallis 1988, p. 631).

It is not clear how or when Wathen learned cataract surgery. Some of his early cases relate to ophthalmology. In 1752, Wathen treated a child in London who had a corneal speck following measles by applying eye-waters (Ware 1780, p. 54). Before 1760, Wathen treated a woman with longstanding inflammation in both eyes with a tincture (Ware 1780, pp. 53-6). In another case before 1760, Wathen enucleated the eye of a child with “a large fungous excrescence” (Ware 1780, pp. 54-8).

In 1771, Wathen testified in court regarding an autopsy of a child whose throat had been cut (No author listed, April 13-16, 1771, p. 4).

In 1783, “Dr. Wathen” performed an operation upon the throat of a man named Ryland (Wathen April 24-26, 1783, p. 4).

Wathen first trained, and then practiced with, James Ware from 1777 to 1791 (Power, Ware 2008). Papers of indenture for 7 years were dated 1778 (Hayward 2014, p. 3).

In 1780, Wathen took as an apprentice George Frederick Pitt in London (Wallis 1988, p. 631)

In 1784, Wathen and Ware took the grandson of Wathen’s wife (Jonathen Wathen Phipps) as an apprentice (Hayward 2014, p. 4).

In 1785, Wathen published a dissertation favoring cataract extraction over couching (Wathen 1785). Wathen reviewed the foreign and domestic literature on cataract extraction, and “I, as well as some others, have endeavoured to avail myself of these helps [written works]; and, after innumerable experiments upon the dead eyes of animals, have

for many years, performed the operation upon the living eye with success.”(Wathen 1785, pp. 74-5) Wathen’s preferred method of cataract extraction was “recommended, not merely by my own experience; but also by that of some others, who have practiced it in this country, in the course of the last twenty years.”(Wathen 1785, p. 75) This time frame might correspond with the arrival of Baron Wenzel to England in 1764. However, Wathen did not explicitly mention the Baron Wenzel, whom Ware later credited with teaching Ware.

Wathen incised the inferior half of the cornea with a knife, and if performing bilateral surgery, made the corneal incisions for both left and right eyes before actually extracting either lens (Wathen 1785, pp. 81-2). Wathen did perform extracapsular extraction after dividing the capsule with “M. De la Faye’s Kistitome.”(Wathen 1785, p. 82)

In 1785, Wathen had “lately an opportunity of examining near eighty persons in Greenwich Hospital” with ocular complaints (Wathen 1785, p. 137). In 1791, Wathen formed a partnership with Phipps in place of Ware (Hayward 2014, p. 4).

In 1798, Wathen was described as “an excellent surgeon, and the first oculist of this age and nation”.(Ring 1798, p. 79)

Lewis de Bello (1765). Mr. Bello (or Bollo) was an oculist, surgeon, and dentist from Venice, who was in Bristol according to Felix Farley’s Bristol Journal of March 30, 1765. He announced in the journal of May 25, 1765 that he was going to London for the season (Jonathan Barry University of Exeter, personal communication, 2019).

In 1766, “Signior Bellot” advertised in Manchester that “he operates in the new Method of extracting the Cataract, or the Glaucomatic Crystalline.”(Bello July 8, 1766).

In 1772, “Mr. Bello, Oculist” practiced in Newcastle.(Bello August 1, 1772, p. 2) In July 1773, “Mr. De Bello, Oculist” advertised in the same city the cure of a man who had been blind in both eyes for four years (Bello July 17, 1773, p. 1)

By December 1774, Bello had moved to Edinburgh.(Bello December 17, 1774)

In March 1776, in Belfast, we find the advertisement: “Arrived from Edinburgh, Mr. De Bello, Occulist, from Verona in Italy. Who in thirty Years Practice has restored many hundred blind Perrsons to their Sight...in most Parts of Europe”.(De Bello March 5-8, 1776, p. 2). He treated “Cataract, partial Gutta Serena, Opacity of the Corea, Spot Pearl or Film, occasioned by the Small-pox...Fistula Lacrimalis, Tumour and Excrescences in the Eyes”(De Bello March 5-8, 1776, p. 2). He was willing to operate in front of “the Faculty”.(De Bello March 5-8, 1776, p. 2) De Bello provided “applications” which permitted a young child to recover vision after an accident (De Bello March 12-15, 1776, p. 2).

In July 1798, “Mr. Lewis De Bello, Oculist, in Sunderland near the Sea” operated on William Hardcastle, a 71-year-old “gentleman” who had lost vision in both eyes and was “incapable of walking out without a Guide”.(De Bello, Dec 29, 1798, p. 3) De Bello “extracted a Cataract” from one eye, and the patient can now “walk abroad without Assistance, and clearly discern any Object before me”.(De Bello, Dec 29, 1798, p. 3)

Ornibell Toscano (1766). The Belfast Newsletter of May 9, 1766 noted the arrival of “Dr. Ornibell Toscano, Operator and Oculist”, who had been to London and Dublin (Toscano May 9, 1766, p.2). He performed “a new Operation in removing the Cataract”. He would remain in Belfast for six weeks before returning to Dublin.(Toscano May 9, 1766, p. 2) “Dr. Ornibell Toschaeno” operator and oculist advertised in the same paper on May 23, 1766 (p. 3).

“Doctor Toscano, Operator and Oculist” advertised in Edinburgh in 1768 that he had practiced in London and Dublin for the previous 17 years.(Toscano, May 14, 1768, p. 3) He could draw teeth or stumps, and would remain in Edinburgh for one month.(Toscano, May 14, 1768, p. 3)

Charles A. Goergslenner (1765). In a testimonial from September 1765, a patient from Kent certified that by “the great Skill of the famous Saxon Doctor and Oculist C. A. Goergslenner...am now by an Operation of a few Minutes, perfectly restored to my Sight.”(Goergslenner Sep 4, 1765, p. 3)

As noted below, Goergslenner was practicing with Uytrecht in October 1768 in Woodbridge near Ipswich.

In December 1769, “the famous Saxon Doctor and Oculist, Goergslenner” advertised that he had just come from Leicester and would remain in Derby for 4 months.(Goergslenner December 22, 1769, p. 1) “Goergslenner” practiced in Dorchester in 1772, but intended to move to London.(Goergslenner June 1, 1772)

The Bristol Journal editions of September 12, October 14, November 11, and December 30, 1775 advertised the cures of Dr. Goergslenner, surgeon and oculist (Jonathan Barry, personal communication, 2019).

“Goergslenner” practiced in Hull for a few months in 1776 (Bickford 1983, p. 48).

In the summer of 1779, Goergslenner was practicing briefly with Dr. Uytrecht in Portsmouth and Newport (on the Isle of Wight) (see below).

Goergslenner settled in Bristol for a period when he had a family. According to the Bonner and Middleton’s Bristol Journal of July 22, 1780, Dr. Goergslenner has resided in London for several years, but has now settled entirely in Bristol. The baptism of Henry John, son of Carl Adolph and Martha Georslenner of Queen Square, physician, was recorded at St. Stephen on August 25, 1780 (Jonathan Barry, personal communication, 2019). The Bristol Gazette editions of July 20, and August 6, 1780 advertised the cure of a Bedminster girl who had been bilaterally blind for over a year and was restored to sight (Jonathan Barry, personal communication, 2019).

In September 1783, "Doctor and Oculist Goergslenner" advertised that he practices at his home in Bristol but will also rotate through Bath (Goergslenner Sep 25, 1783, p. 2)

In August 1793, Goergslenner announced that he would practice and reside in Dublin “for a considerable time”. He had just come from London, but was a native of

Saxony (Goergslenner August 3, 1793, p. 2). In February 1794, he reminded Dubliners that he was an oculist, but also cured hernias and deafness (Goergslenner Feb 13, 1794, p. 1).

Goergslenner practiced in Hull in Nov 1794 after four months in York (Bickford 1983, p. 48). He announced in April 1795 that he would settle in Hull when he could find a house. By 1798, he was renting a house in Quay street from a wine merchant (Bickford 1983, p. 48). He died at Norwich in early 1805, and was remembered as “the celebrated oculist” (Bickford 1983, p. 48).

Goerslanger Benvenuti (1766). Dr. Goerslanger Benvenuti, the Saxon physician and oculist, advertised in Felix Farley’s Bristol Journal of April 5, 1766 that he had been successful in curing deafness and blindness over the past two months in Bristol (Jonathan Barry, personal communication, 2019). In the same journal, he advertised on May 3 that he would stay in Bristol until the 24th in order to help the poor (Jonathan Barry, personal communication, 2019).

In October 1766, “the famous Physician and Occulist, Dr. Benvenuti” advertised in Manchester that he had practiced for a long time in London. (Benvenuti Oct. 14, 1766, p. 2) He was “renowned by his happy operations”, though it really was not clear if he did cataract surgery.(Benvenuti Oct. 14, 1766, p. 2)

Dr. Mescrit (1767). Dr. Mescrit was a man-midwife and “oculist” who advertised his cures on January 31, 1767 in Felix Farley’s Bristol Journal (Jonathan Barry, personal communication, 2019).

George Cleghorn (1767). George Cleghorn (1716-1789), son of William, began a 5-year apprenticeship with Alexander Monro in 1731 (Wallis 1988, p. 119). Cleghorn was listed as an army surgeon in Minorca beginning in 1750, and then an anatomy professor in Dublin (Wallis 1988, p. 119). Cleghorn, a surgeon and anatomist at Trinity College in Dublin, lectured in 1767 on cataract couching and extraction and on Cheselden’s operation of the artificial pupil (Cleghorn 1767, p. 52). It is not clear that he actually performed the surgeries himself.

Dr. Sedra (1767). In March 1767, Sedra, an “eminent Surgeon & Oculist” advertised in the Ipswich Journal that he was staying at Bury St. Edmunds (van Zwanenberg/Sedra).

In 1769, “Doctor Sedra” an “(Italian) Physician and Oculist, (From the Colleges of Paris and Montpellier)” advertised that he “cures all Disorders of the Eye, without Instruments, except the Cataract, and that he couches.”(Sedra Aug 22, 1769, p. 2) He was going to be in Leeds, Wakefield, and Bradford. He noted that “in the late War the Doctor served his Majesty seven Years, in the Royal Navy.”(Sedra Aug 22, 1769, p. 2)

Sedra was still practicing in Leeds in 1783.(Sedra Nov 18, 1783)

William Hey (1768). William Hey (1736-1819) trained at St. George’s Hospital from 1757-9 under William Bromfeild and John Hunter (Lloyd 2005, p. 54). Hey also had the opportunity to operate with Potts at St. Bartholomew’s Hospital (Lloyd 2005, p. 66). He practiced in Leeds from 1759 to 1819, including at the Leeds Infirmary, founded in 1767, along with James Lucas (Hey 1805, pp. 41, 80; Lloyd 2005, p. 80). Hey recalled that in 1768

he began performing cataract surgeries, and observed “Dr. Hilmer, an itinerant oculist” perform several cataract couchings using a small round needle (Hey 1805, p. 36). Subsequently, “I immediately adopted the form of his instrument...”(Hey 1805, p. 36). Indeed, Hilmer was in Yorkshire towards the end of 1768, shortly before he visited London (Hilmer Jan 2, 1769, p. 4). Hey wrote “I entered upon the profession of Surgery in the year 1759, but did not begin to perform this operation till the year 1768. Since that time, the cases of Cataract which have come under my care have been somewhat numerous.”(Hey 1805, p. 32) In addition, Hey observed Hilmer perform cataract surgery on May 1, 1769 (Lloyd 2005, p. 35; Lucas 1784, p. 253), so perhaps Hilmer visited Leeds twice. Hey related many of his own cases of cataract couching, including a two-year-old born blind (Hey 1805, pp. 39-70).

Dr. Jackson (1768). In May 1775, an advertisement in Chester declared “In this City is arrived (on his way from Ireland), Doctor Jackson, late an eminent Surgeon in the army, who was Oculist and Dentist to the King of Denmark during his stay in England. The Doctor intends making a short stay in this City...The Doctor performs the operation of couching...”(Jackson May 29, 1775, p. 3) Indeed, King Christian VII (1749-1808) of Denmark visited London in 1768.(Royal Collection Trust)

Johannes Baptista Uytrecht (1768) and Dr. Cheese. Johannes Baptista Uytrecht (1724-1787) was notable for practicing with at least one other oculist.

In October 1768, the Ipswich Journal announced that Uytrecht and his partner Dr. Goerslenner were moving to Woodbridge (Zwanenberg/Uytrecht).

In April 1769, “Doctor Uytrecht, Oculist, from the Town of Mechlin, licensed by his Serene Highness Prince Charles of Lorrain”, who had just performed many cures over the past 4 months in Bury St. Edmund’s, was arriving in Sudbury on April 20.(Uytrecht April 15, 1769, p. 4).

“Dr. Utrecht, Oculist” advertised in February 1772 that in just 8 days in Durham, he had already cured several of deafness or a “hare-lip”.(Uytrecht Feb 15, 1772, p. 3) In September 1772, “Dr. Uytrecht, Oculist, of the town of Mechlen, in Germany” was arriving in Newcastle from Sunderland. He had cured patients who were deaf or blind from cataracts.(Uytrecht Sep 19, 1772).

In July 1779, “Doctors Uytrecht and Goergslenner, Physicians and Oculists, from London” were once again practicing together, now in Newport (Isle of Wight), having just come from Portsmouth.(Uytrecht July 5, 1779, p. 3)

“Dr. Uytrecht, Oculist” advertised in 1784 in the Nottingham Journal:

“he has restored many afflicted with blindness of sight and many deaf to perfect hearing. His operations and cures (by the blessing of God) have been great and unexpected.”(Chamberlain 2012)

A brass plate in the St. Lawrence Church in Ipswich, Suffolk, memorializes “Johannes Baptista Uytrecht M.D. and Oculist; who died Jan. 18, 1787, aged 63.”(White 1901, vol. IX, p. 187) The obituary notices of Dr. Uytrecht noted that he left a son, another Dr. Uytrecht,

residing in Ipswich (No author, Jan 24, 1787, p. 2), but we don't hear anything from the son after the father's death.

Uytrecht had practiced to the very end, and in fact had formed another partnership with one Dr. Cheese. Uytrecht's last advertisement appeared posthumously: "Drs. Utrecht and Chuse, Oculists" listed their cures in Ipswich on January 20, 1787.(Uytrecht January 20, 1787, p. 3)

Dr. Cheese continued the practice in Ipswich, without mentioning that his partner had died (Cheese Jan. 27, 1787, p. 3). Perhaps, Cheese was a former assistant of Uytrecht, and traded on his name.

Dr. Cheese advertised that he brought to sight several with an operation of just a few minutes (Cheese July 4, 1787, p. 3). He would not publish the patient's name in the paper, unless the patient agreed, or unless the treatment was provided at no cost (Cheese July 4, 1787, p. 3).

The Elliott family and Mr. Kennedy (1767). Several oculists by the name of Elliott came from London after 1750.

On September 26, 1780 the will of "Richard Elliott, Oculist of Saint George Bloomsbury, Middlesex" was probated.(Elliott nationalarchives) The next month came the advertisement of

"Mr. Kennedy...Surgeon and Apothecary, successor to the late Richard Elliott, Esq...in the family of Mr. Elliott (which was a physical family) there had been transmitted from father to son, for near a century, a knowledge of particular medicines of incredible efficacy in disorders of the eyes."

Elliott had taught Kennedy how to be an "occulist" but had forbidden Kennedy to practice in Elliott's lifetime.(Kennedy Oct. 4, 1780, p. 3)

An oculist from London named William Elliot, perhaps from this family, advertised in Boston (Massachusetts) in 1767:

"William Elliot, Surgeon & Eye-Doctor from London"(Elliot July 6, 1767, p. 4)

Things did not go well for Elliot. In December, he advertised from the "Boston Goal [Jail]" that he was a "Surgeon and Occulist from London" who could not practice normally due to his incarceration. He had a good eye water which could be obtained from the "Keeper of said Goal".(Elliot Dec 17, 1767, p. 4)

James Lucas (1769). James Lucas trained at St. Bartholomew's Hospital under Percival Pott (Lloyd 2005, p. 54). Lucas was the surgeon at the Leeds Infirmary from its founding in 1767 until his retirement in 1793 (Hey 1805, p. 80). Lucas observed the Baron Hilmer perform cataract couching with a round needle when Hilmer visited Leeds in 1769 (Lucas 1784, p. 253). James Lucas was described as a surgeon in Leeds by 1772 (Wallis 1988, p. 378). He took apprentices there between 1781 and 1792 (Wallis 1988, p. 378). Lucas was the surgeon to the Leeds Infirmary in 1783. By 1783, he had performed 20 cataract couchings with this needle. One was a man bilaterally couched in December 1781, six

weeks after he “became blind”.(Lucas 1783-4, pp. 260) At the Leeds Infirmary, Lucas evaluated cataract patients with Mr. Hey and Mr. Jones (Lucas 1783, p. 263).

Dr. Cooke (1770). According to the Bristol Journal of April 14, 1770, Dr. Cooke practiced on Barton Street in Bristol. In the same paper on January 9, 1773, “Dr. Cooke, oculist and botanist” advertised his cures for the stone and, on January 23, 1773, his cures for deafness (Jonathan Barry, University of Exeter, personal communication).

Philip Anthony Miller (1770). Philip Anthony Miller of Germany was educated in Westphalia, the University of Louvain, and Paris (Miller 1771, p. 1; Dundas 1771). He studied under Daviel, and then practiced in Paris for 20 years (Dundas 1771). It is conceivable that he was the Mr. Miller who practiced with Joseph Rouviere beginning in 1764, and then on his own in 1767 (see above), as both Millers extracted cataracts, though their published biographies do not match exactly.

In 1770, Philip Anthony Miller was practicing in Newcastle as an oculist and removed a piece of metal from the eye of a Scotsman who happened to be in town. By 1771, Miller had moved to Edinburgh and married the daughter of this patient. A legal dispute ensued when Miller could not stand living with his in-laws, moved out of the house, and maintained he did not receive all the support he had been promised by his in-laws to enter into the marriage (Dundas 1771, Angelo-Tremamondo 1771a&b).

In 1771, Miller extracted a piece of glass which had been lodged in the cornea of a servant from West India. The glass had greatly affected the iris (Miller May 15, 1771, p. 3).

Philip Miller was listed as an oculist in Edinburgh in 1773 (Williamson 1773, p. 7). “Mr. Miller, Surgeon and Oculist of Edinburgh” briefly visited Leeds in September 1774.(Miller Sep 13, 1774, p. 3)

Philip “Millar” was still listed as a “surgeon-occulist” in Edinburgh in 1775 (Williamson 1775, p. 65). That year, surgeon George Borthwick of Edinburgh wrote that he used Miller’s speculum and knife (Borthwick 1775, p. 21, 29).

In 1785, surgeon Benjamin Bell of Edinburgh described an eyelid speculum which was useful for cataract surgery, which he indicated had been imported to the area by “the late Mr Miller, who for several years practiced with much reputation as an oculist in this place.”(Bell 1785, vol. 3, p. 429) Surgeon Jonathan Wathen of England had heard that “Mr. Miller, of Edinburgh had “constructed a knife, the [s]haft of which stood at right angles with the blade, which was very short. This, being held in the right hand, was to be introduced into the inner, instead of the outer, margin of the cornea of the right eye.”(Wathen 1785, p. 82) This knife permitted either eye to be operated with the right hand.

C. H. Eickhoff (1770). “The German Doctor and Oculist Eickhoff” advertised in Northampton in July 1770 that he intended to stay for 2 more months (Eickhoff July 23, 1770, p. 3). Eickhoff “restores Sight to those afflicted with Cataracts, in a few Minutes, by an entire new Operation.” (Eickhoff July 23, 1770, p. 3) Most of his advertised cures related

to deafness, but he did cure Edward Ward, age 57, of a speck on his eye which had rendered him blind for 5 months.(Eickhoff July 23, 1770, p. 3)

Mr. Eickhoff, doctor and oculist, advertised his arrival and subsequent cures in the Bristol Journal of July 27, 1771.(Jonathan Barry, personal communication, 2019).

In Reading in 1772, “the famous Doctor and Oculist Eickhoff” published his cure of a speck on the eye of a 12-year-old boy since the age of one year (Eickhoff April 6, 1772, p. 2).

In December 1794, we read in Leeds: “Just Arrived here, from Guelderland [Netherlands]. C.H. Eickhoff, Doctor, Surgeon, and Oculist...Restores Sight to those who have the Cataract; most of them in a few minutes.”(Eickhoff Dec 15, 1794, p. 3)

Daniel Farroe (1772). Daniel Farroe announced in Felix Farley’s Bristol Journal on September 19, 1772, that “Dr. Farroe” had returned from a tour of the north of England, and had cured many with the king’s evil, and hystericks, and intended to reside in Rosemary Street (Jonathan Barry, personal communication, 2019). The same paper carried an advertisement for the medicines of “Dr. Farro”, an oculist and aurist, on September 26, 1772 (Jonathan Barry, personal communication, 2019). The Bristol Journal on February 11, 1775 noted that Dr. Farroe was also a schoolteacher, and the author of the Royal Golden Instructor, and could cure scrofula (Jonathan Barry, personal communication, 2019). This book instructs on proper English pronunciation, grammar, and vocabulary (Farroe 1775). It is doubtful that Farroe would have performed cataract surgery.

Caspar Conti (1772). Caspar Conti, who often wrote his name “de Conty”, was born in Milan, and spent time serving in the Austrian military (Koch 2014, p. 33-4). He worked as an itinerant cataract surgeon in Italy, France, Mannheim, and Mainz (Koch 2014, pp. 33-4). In 1764, he practiced for several months in Cologne, and Bonn, before traveling to Frankfurt (Koch 2014, pp. 33-4).

In May 1772, Conti advertised in Dublin that he had been practicing in Leeds, and that he extracts cataracts by a new method, and also operates on films and “Fistula Lachrimalis”. (Conti May 5, 1772) Since arriving in Dublin, he had already begun extracting cataracts.(Conti May 5, 1772) On his 1772 tour of Ireland, Conti, the “oculist to her Imperial Majesty...Elector of Saxony” also practiced in Cork.(Crowley 2019) On October 19, 1772, “Dr. Conty” the “Occulist” advertised in the Hibernian Chronicle that he lodged at Mr. Charles Dwyer’s on Fenn’s-quay (corkgen.org).

On May 17, 1773, Dr. De Conty, “occulist” advertised that he was arriving in Plymouth from Cornwall in the Western Flying Post or Sherborne and Yeovil Mercury.

Dr. De Conty advertised in Newcastle in 1776.(Conti April 6, 1776, p. 2)

In July 1777, De Conty advertised in Norfolk that he had cured a 14-year-old boy born blind.(Conti July 19, 1777).

Dr. De Conty “Occulist to Her Imperial Majesty, and his serene Highness the Elector of Saxony” advertised his arrival in Whitehaven in the September 4, 1777 Cumberland Chronicle or Whitehaven Public Advertiser (hyattfamily.co.uk). The paper noted on

September 20 that “Dr. de Conty, Occulist, performed an operation, with the greatest success, on the eye of Elizabeth Beckton...she is 16 years of age, and had been blind in one eye for seven years- immediately after the operation she could distinguish every object.”(No author, past presented Sep-Oct 1777)

Frederick William Jericho (1772).

Frederick William Jericho (fl. 1766-, d. 1800) was an itinerant oculist, born in Eisenach, Germany. He began studying at the University of Utrecht in 1766 (No author 1886 “Album”; Leffler 2015). The maiden name of Jericho’s wife was Diela Johanna Mentinck. According to a notarized record, he and his wife borrowed 400 guilders at 4% interest in 1767. Jericho is referred to as a ‘chirurgijn majoor’ (major surgeon) in the Dutch army. Records of the protestant church from 1766 indicate that Jericho’s wife was from Groningen, and was registered as a member of the church. They were evidently married by that time (because her last name is Jericho) (Leffler 2015; Luijt 2014). Jericho defended his medical school thesis, which described cataract extractions, in 1767,(No author “Album” 1936) the year it was published at Utrecht (Jericho 1767). He dedicated the work to Francis Burmann. In the thesis, Jericho stated that he was a major surgeon in the Frisian army. Jericho reviewed the history of cataract surgery, and cited Jacques Daviel (Jericho 1767). Jericho stated that Petrus Camper of Groningen taught him cataract extractions.(Jericho 1767, p.21) As Jericho’s wife was from Groningen, Jericho may have spent time studying under Camper in Groningen. Jericho also refers to the 1761 text of Gerard Ten Haaf (1720-1791) from Rotterdam (Jericho 1767, p. 22). After presenting the complications of couching and a short history of cataract extraction, Jericho describes extracapsular cataract extraction. A translation of this section was provided to us by David Butterfield, PhD, of Queens’ College at the University of Cambridge:

“Although the new method that we have praised of healing cataracts is commonly known among medics, and adopted by surgeons in our land (and certainly by me frequently enough), and described everywhere, it will nevertheless be useful for those to whom this method is not sufficiently well known to describe it here in a few words, and to append some cautions below that should be observed in its practice. The assistant of the surgeon directs the upper eyelid upwards with one or two fingers, and takes particular care that it is not depressed by any involuntary or unwanted movement, which would disturb the operation; some use that tool which has a double curved hook at its end, in order that the eyelid be held more firmly; but there is no need for this instrument, I have found. It is agreed that the cornea, in which part the sclerotic starts to appear and be clear above, ends in a circle: across this parallel, and parallel to the horizon, the diameter, pierced at its extremities with an approximate half line in the sclerotic, defines the route for the knife that is to cut the eye. A skilled surgeon confirmed by frequent successes holds the knife with a free but not shaky hand, as much as possible in his first fingers, with the edge directed downwards, and he keeps it moving at an outer angle to the eye that suffers from the cataract, waiting for the moment at which the eye is sufficiently still and moved into the most convenient position, and seems to be able to endure the infliction of a wound from the point of a knife (although a brief delay may be most welcome). The incision is made at the extremity of the diameter, which we drew across the middle of the eye, since the point

of the knife, fixed into the cornea by an approximate half line above the sclerotic, follows this carefully, lest it harm the uvea (which, once the incision is made, always extends into the anterior part when pressed by someone gently resting upon it), and when the cornea is pierced by this at the other extremity of the diameter by the internal canthus of the eye, the lower part of the semi-circular cornea is cut obliquely by the very edge of the knife, after which all the aqueous humour at once flows forth from the eye, and often the crystalline lens, with convulsive motion from the irritation of the muscles serving the eye, is already moved from its anterior position with all the resistance, is disturbed from its position, its capsule is burst, it is pushed forward through the pupil, and it falls at once from the eye: if this does not happen, the incised part of the cornea should be raised up by a surgeon's needle, and when brought forth through the aperture and pupil, the capsule in which the lens is enclosed should be scraped or perforated; although it is much better to use a needle or a thin and sharp instrument ending in a point, which at its end is blunt on either side. Sometimes it happens that the lens leaves the eye in pieces, especially when harmed without care, or when it does not cohere together because of its excessive softness: I was able to see and wonder at such a lens being broken up like a star, having at its middle a tiny aperture (the lens, softened by water, was observed to break down continually into its parts), along with the most celebrated P. De Camper, my forever venerable teacher, much the most famous Professor of Anatomy, Medicine and Surgery at Groningen, who has done well by me in so many ways, and when this happens, the surgeon will try to remove the remaining part of the lens from the eye with the thinnest of spoons, which does not always succeed, especially if the lens has coalesced in some part with the posterior surface of the uvea; when this happens the fragments should be carefully freed from their binds by seizing them with a small set of forceps and using the thinnest pair of scissors."(Jericho 1767, pp. 20-1)

Jericho continued: "On completing the operation the surgeon, being mostly happy with the aqueous humour, sees the lens exit the eye, being disturbed from its place by the action of the muscles, and be thrust forward by the pupils (this act of nature has a great similarity with birth): although the pupil, being in its rear part broader and by nature more able to dilate, generally transmits the lens with ease, it nevertheless happens that it is disrupted by the hardness, or mass, or indeed the position of the lens as it passes, and care should then be taken that, when interposed between the relaxed membranes of the cornea it does not impede its solidity, and the surface of the lacerated iris should be filed down by a gold or silver plate (spatula), and the hardening of the solution should be left to nature; otherwise one should fear staphyloma. But if the uvea is ruptured it will pour forth blood into the anterior chamber, which will most certainly obscure the vision: it will be advisable, once the effluence of blood ceases through the elastic contractions of the vessels, after five or six hours have passed (in which time the aqueous humour tends to be repaired), to release by gentle pressure the cornea that has coalesced, so that it may give an exit for the blood contained in it together with the aqueous humour (Jericho 1767, pp. 32-3)."

According to Jericho, relative and absolute contraindications to surgery include cachexia, eye inflammation, corneal or vitreous opacity, "shaking eyes" (nystagmus) and poor pupillary responses (Jericho 1767, Leffler 2015). He wrote that if the unaffected eye sees well after cataract extraction, the patient may be unsatisfied because of "unequal

functioning of both eyes" which "can easily be confirmed by optical methods" (Jericho 1767, Leffler 2015). Deep orbits can present problems during surgery. Pressing on the eye during surgery can cause iris prolapse. Anterior chamber hemorrhage is managed by waiting 5 or 6 hours, and then delicately pressing on the eye to evacuate blood and aqueous (Jericho 1767, Leffler 2015). When the lens is fragmented, a small loop or spoon is used to evacuate the material. Jericho noted that after the lens is extracted, "glutinous strands of liquid", which were "elastic and viscous", or "phlegm" might appear (Leffler 2015, Jericho 1767). This observation most likely represented vitreous loss, although Jericho did not recognize it as such. Jericho recommended evacuating this material "with the small spoon (usually made of gold)" to avoid "visual deterioration, which is often not known or often neglected by even experienced physicians." (Jericho 1767, Leffler 2015)

From Dec. 1769 through Sep. 1770, Jericho operated on cataracts in Friesland when he was not staying with his garrison in Hoorn (Wumkes 1930, pp. 247,249,255).

In March 1772, "Frederick William Jericho, regular bred Physician, Surgeon, and Oculist" arrived in Belfast, "from Germany and Holland". (Jericho March 20, 1772, p. 2) In addition, "He extracts the Cataract" and invited "the Gentlemen of the Faculty" to watch his operations (Jericho March 20, 1772, p. 2). By March 25, in the presence of the faculty of Belfast, he had extracted the cataract of Michael Adair, who had been bilaterally "blind" for four years (Jericho March 27, 1772, p. 2). Next, he successfully extracted the cataract of one John Deyel. (Jericho April 7, 1772, p. 2) He also cured several patients of "violent Inflammations, Scums and Hypopeon" in Belfast (Jericho April 7, 1772, p. 2). These advertisements from Ireland have not previously been identified, and mark Jericho's last known European stop before his journey to Antigua, Montserrat, and St. Kitts.

Jericho returned to London in October 1776 (Leffler 1491; Leffler Anglo), when he advertised: "Catharacts in the Eyes. Frederick William Jericho, Occulist and regular bred Physician, being just arrived from the West Indies...Extraction of the Catharact, directly in the same manner as the famous Baron Wensel." (Jericho Oct 4, 1776) In 1777 he advertised testimonials in London from his time in the Caribbean: "...on my cousin Robert Dyett, Esq. of Monserrat, who had an aneurysm in his right eye, which extended the globe to such a degree, that he was in convulsions and the most excruciating pain day and night, without receiving any relief till he applied to Doctor Jericho, who took out the whole globe of the eye, and in three weeks time made a perfect cure of him. He also performed the operation of the Cataract on a [black] girl; who immediately after could distinguish objects clearly, and in a fortnight's time able to go abroad and about her business...when Dr. Jericho was in the Island of Antigua, he performed a very surprising cure on a Lady of a fungus cancer...He also cured a Mulato girl, who had long lost the use of both her hands, and was totally deprived of eye-sight, to both of which she was restored, and is now able to do the finest needlework. He has restored several in the island of Antigua to their sight by the operation of the cataract..." (Jericho May 1, 1777, p. 2) These cases represent the earliest identified cataract extractions and enucleation(s) identified in the New World (Leffler 1491; Leffler Anglo-America; Leffler Latin America), and must have occurred between 1772 and 1776. Jericho testified at the 1777 trial in London of his assistant, who was convicted of stealing Jericho's belongings, which included a pair of forceps, a spatula, and a probe, all made of

silver (No author listed “Old Bailey” 1777). Jericho was in England through 1777, and in Bonn in 1780 (Leffler 1491).

In October 1783, Jericho made a second American voyage, when he practiced in the United States, and then in the Caribbean before returning to Europe (Leffler Anglo; Leffler 1491).

In July 1791, Jericho advertised: “To those afflicted with the Cataract, and other diseases of the Eyes. F. W. Jericho, Physician of the University of Utrecht, and Oculist,...” has arrived from Jamaica, and will proceed to Holland, but will return to London from October to May...” He noted “the great success he has in common met with in extracting the Cataract...”(Jericho, July 28, 1791, p. 1) Jericho practiced in Amsterdam in 1796 (Jericho 1796). Jericho died just before June 24, 1800 according to records in the Hague (No author “Familieadvertenties” 1800).

Mr. Palermo (1773). “Chevalier Doctor Palermo”, of Sicily, arrived in London in 1773. He was known as “an excellent Physician, Chirurgeon, Occulist and Dentist”, and had practiced in France. His advertisement focused on dentistry (Palermo Dec. 20, 1773, p. 4)

William Rowley (1773). William Rowley, MD (1743-1806) was listed as an army surgeon and then as a surgeon at the Marylebone Infirmary (Wallis 1988, p. 516). He took a surgical apprentice in 1770 (Wallis 1988, p. 516).

In October 1773, William Rowley successfully restored the vision of a man named Edward Roberts who had previously been treated by an oculist without success. Roberts could now “see to read the smallest print”.(Rowley 1779a, p. 12) Rowley’s treatment was medical (Rowley 1779b, p. 58)

In 1773, Rowley promised to publish “Mr. Rowley’s New Method of operating for the cataract” which outlined the improvements in the surgery which he had discovered (Rowley 1773, p. 2). He wrote “I have operated for the cataract, and restored to sight great numbers by a new method.”(Rowley 1773, p. 158)

In 1793, he wrote “In the cataract, where the operation is absolutely necessary, I have invented instruments which render more facile this operation, and have had considerable success in the extraction of the cataract...”(Rowley 1793, Vol. 1, p. 277) Rowley performed cataract extraction in one man at the hospital assisted by his students Mr. Falconar and Mr. Walkey (Rowley 1793, vol. 3, p. 308-9). The operation was a success, and, as it happens, the man was a pauper who had been inhumanely locked up without food by the woman who was paid to care for him for several days after the surgery. The good outcome persuaded Rowley that a spare diet after the surgery was helpful.

Joseph White (1774). Joseph White was in practice as a surgeon and apothecary in Birmingham by 1754, when he took an apprentice (Wallis 1988, p. 645). White still practiced as a surgeon there in 1757 and 1758.(Wallis 1988, p. 645) Joseph White, M.D. advertised as an oculist in Birmingham in 1774 and 1777 (No author listed, Birmingham, 1774, p. 69; p. 52).

James Graham (1774). James Graham (1745-1794) was an itinerant oculist who practiced in both England and America (Leffler 1491). He was born in Edinburgh and studied at the University of Edinburgh in 1761 (Leffler 1491; Porter 2017). Graham seemed to be highly influenced by John Taylor, and could have been influenced by Taylor's visit to Edinburgh in 1760 (Taylor May 26, 1760, p. 2).

By the time Graham married in 1764, he had opened an apothecary shop in Doncaster (Leffler 1491). James Graham subscribed as a druggist in Doncaster in 1767, and as a surgeon in Paisley, Renfrew in 1770 (Wallis 1988, p. 238; Porter 2017). Of note, the oculist Edward Green III was an established figure in Doncaster. In the latter half of the 1760s, Graham studied in hospitals in Dublin and London (Leffler "1491"). Graham then practiced in America, from the summer of 1769 to December 1773 (Leffler 1491). He couched at least four patients between April 1772 and July 1773 (Leffler 1491). However, we have no evidence that he couched cataracts either before or after his American journey. Cataract surgery seemed to be something he dabbled with for a brief period.

Graham returned from North America to London in February 1774 (Graham Feb 11, 1774, p. 1). He advertised as an oculist and aurist in Felix Farley's Bristol Journal of April 30, 1774 (Jonathan Barry, personal communication, 2019). He was still in Bristol on November 3, 1774, when he advertised his cures in that city in the Bristol Gazette (Jonathan Barry, personal communication, 2019). He moved to London in 1775, and was in Bath in 1776 (Porter 2017). However, he soon gave up his practice as an oculist, and moved on to electrical cures, and then sexual and fertility treatments (Leffler "1491").

Dr. Chalibert (1774). Chalibert introduced himself in London in 1774:

"Mr. Chalibert, Oculist from Paris, undertakes to extract the Cataract out of the Eye..."(Chalibert Feb. 28, 1774, p. 4)

That year, he published "A Dissertation Upon the Gutta Serena"(Chalibert 1774) Bleeding was sometimes necessary for this condition, though it was overused (Chalibert 1774, pp. 2-3). He had invited the Gentlemen of the Faculty to attend the operations of the cataract, which he performed on March 25, 1774 (Chalibert 1774, p. 12). He had developed an instrument which fixes the globe during the surgery (Chalibert 1774, pp. 22-3). Dr. Huck and Mr. Chaff, surgeon, were present for the cataract operation on the 70-year-old Mrs. Curvis, Mr. Charles Wallot, and Mr. John Birchall (Chalibert 1774, p. 24-5) Mr. Birchall had been left with "membraneous Cataracts" after being operated on five times in the left eye and once in the right by a London surgeon (Chalibert 1774, p. 25)

Edward Ford (1774). Edward Ford (1746-1809) was a surgeon at the Westminster Dispensary by 1774 (Wallis 1988, p. 205). He performed eye operations at the Dispensary. He treated a case of proptosis by extirpating the eye in 1781. In his 1784 method of curing hydrophthemia, a seton was placed. For positioning, "the surgeon and his patient should be seated in the same manner as for extracting the cataract, or performing any other operation on the eye."(Ford 1784) In 1798, Ford took a surgical apprentice (Wallis 1988, p. 205).

George Borthwick (1774). In 1774, George Borthwick (1752-1836) published a cataract extraction he performed while a “student of physic at Edinburgh” in the presence of Dr. Gahn, Mr. Fau, Mr. McLellan, Mr. Riddell and Mr. Manuel (18th century collections). Borthwick operated on the contralateral eye in the presence of Mr. Dodds four months later (18th century collections). In October 1774, Borthwick became the surgeon to the Fourteenth Regiment of Dragoons (Hamilton 1901, p. 31). In 1775, he published a treatise on cataract extraction in Edinburgh. Borthwick had performed a cataract extraction on the left eye of a middle-aged woman in the presence of “Messrs. Hunter and Maclellan, both members of the physico-chirurgical society” (Borthwick 1775, p. 9). Borthwick performed the capsulorhexis using the “gold needle of De Winsel [Wenzel]”(Borthwick 1775, p. 9). Borthwick used the speculum and knife of Philip Miller (Borthwick 1775, p. 21, 29).

Borthwick had relocated to Ireland by 1791 when he was listed as an army surgeon there (Wallis 1988, p. 65). He was in Kilkenny, Ireland, by 1793, when his wife died (No author, Oct. 8, 1793). Borthwick died in Kilkenny in February 1836 (No author, Feb. 20, 1836, p. 2).

George Chandler (1775). In 1775, surgeon George Chandler of London wrote an extensive treatise on cataract extraction with points drawn from the literature (Chandler 1775). He noted several instances of pupillary membranes, as postulated by Woolhouse (Chandler 1775, pp. 9-11). Chandler’s text was essentially a literature review, mostly of foreign authors, although he did cite Warner’s text regarding bleeding and fomentations useful for postoperative care (Chandler 1775, pp. 73, 74, 79). Chandler also cited Sharp’s writings regarding his cataract knife (Chandler 1775, pp. 97, 98). Chandler’s only observation which is not clearly from the literature is to note “It has been particularly observed of Baron Wenzel, that after having cut through the cornea, both he and his assistant let go their hold of the eyelids, in order to give the eye time to recover its steadiness. When the eye has done rolling about...he then again opens the eyelids, and punctures the capsula, upon which the chrystalline generally escapes.”(Chandler 1775, p. 100).

In 1780, Chandler wrote a treatise on the eye, again citing the literature extensively, but again without relating his own cases. We cannot know for sure what personal experience Chandler had with cataract surgery. Chandler was still described as a surgeon of London in 1795 when he took apprentices Nunn Davie and James Walters (Wallis 1988, p. 108).

Dr. Orsi (1776). “Dr. Orsi, Surgeon, Oculist and Dentist, who has travelled through most parts of Europe, with a view of improving his medical knowledge, and practiced with great credit in camps and hospitals” arrived in Colchester. He did perform surgery.(Orsi Nov 2, 1776)

Orsi practiced in Chester in January 1778.(Orsi Jan 20, 1778, p. 3)

William Staniforth (1776). William Staniforth (1749-1833), surgeon of Sheffield (Clay 1895, p. 731) took a series of apprentices from 1776 to 1796 (Wallis 1988, p. 566). The Sheffield Infirmary opened in 1792. A townsman remembered “Mr. William Staniforth was considered the best operative surgeon and oculist in the town. ‘Staniforth’s eye ointment’ was very celebrated. Mr. Cheney, Mr. C. H. Webb, and Mr. William Staniforth, senr., were

the first Infirmary surgeons, and Mr. William Staniforth, junr., became a colleague...in that official capacity...in 1812. William Staniforth, the elder, retired in 1819, and died, August 21st, 1833, aged 83 years.”(Leader 1876, p. 108).

Dr. Lancaster (1776). In July 1776, “Dr. Lancaster, Surgeon and Occulist, at Mr. J. Hamill’s in High-street, Belfast” restored the sight of a shoemaker named Abraham Harman who had been growing blind with “Eyes growing tender and weak” from “a Gutta Serena, commonly called dry Humour in the Eyes.”(Lancaster July 19-23, 1776)

Christian Krebs (1776). In September 1776, “Christ. Krebs, Occulist and Surgeon from Manheim in Germany” announced his arrival in Dublin (Krebs Sep 25, 1776, p. 2). He had just been to Cork, and previously was in England and Wales. He “extracts Cataracts”.(Krebs Sep 25, 1776, p. 2) He was still practicing in Dublin in August 1777 (Krebs Aug 25, 1777). He must have left in a hurry, because in July 1778, the Dublin papers announced the auction of the household effects of “Christopher Krebs, Surgeon and Oculist.”(Krebs July 10, 1778, p. 3).

“Christian Krebs, Surgeon & Oculist” advertised in Shrewsbury in March 1778.(Krebs March 28, 1778, p. 3)

In March 1787, “Christian Krebs, Surgeon and Occulist” advertised his cures since his arrival in Hereford.(Krebs March 1, 1787)

In April 1790, “Christian Krebs, Surgeon and Oculist” advertised in Ipswich that he had “just arrived from the Continent”.(Krebs Apr 24, 1790)

Johannes Krebs. “Johannes Krebs, surgeon and oculist” advertised in Chester in March 1799 that he has resided in Ellesmere for 11 years, but can now be consulted in Wrexham, while “Mr. Krebs, senior” can still be consulted at his house in Ellesmere. Johannes named multiple patients he had cured of blindness (Krebs, March 19, 1799, p. 1).

James Ware (1777). James Ware (1756-1815) was born in Portsmouth, and apprenticed under surgeon Ramsay Karr of that town from 1770 until 1773, when Ware began training at St. Thomas’s Hospital until 1777 (Power, Ware 2008; Hayward 2014, p. 7). At the hospital, Ware studied chemistry, medicine, and midwifery, observed operations, and dissected corpses (Hayward 2014, p. 7). In 1776, Joseph Else appointed Ware demonstrator of anatomy there (Power, Ware 2008). During that period, Joseph Warner practiced at neighboring Guy’s Hospital, and students had exposure to surgeons at both locations. Indeed, Ware seemed to be familiar with the teachings of Mr. Warner (Ware 1780, p. 124).

In 1777, Ware began assisting surgeon Jonathan Wathen, who had a private practice and specialized in ophthalmic cases (Power, “Ware”, 2008). In 1780, Ware published *Remarks on the Ophthalmia, Psorophthalmia and Purulent Eye* (Power, “Ware”, 2008). Ware dutifully credited his master Wathen with relevant teaching (Ware 1780, p. iii-vi). Ware mentioned that a tincture used by Wathen was useful for inflammation “after operations performed on the eye: particularly, after the extraction of the chrySTALLINE humour, and the puncture that is sometimes necessary to be made in the Cornea, to discharge matter lodged between it and the Iris.”(Ware 1780, p. 58)

Ware left practice with Wathen, and began practicing on his own beginning in 1791 (Power, Ware 2008). Also in 1791, Ware published his translation of *Traité de la cataracte* written by the son of the Baron Wenzel (Ware 1791). Ware indicated that he had read everything he could on the subject, but that "...he [Ware] has derived the most useful and important information, from the opportunities with which he was favoured of seeing the Baron operate, and from the remarks occasionally made by the Baron, on the different parts of his process." (Wenzel Jun, Ware 1791, p. ii) Ware alluded to cases of cataract extraction which he (Ware) had performed, including a recent surgery on a 14-year-old girl, who two years previously had had the contralateral cataract extracted by a French itinerant (probably Pellier) in Scotland (Wenzel 1791, p. 37, 91). Ware also described an eye speculum used by "the late Mr. [Joseph] Else". (Wenzel 1791, p. 91).

In 1800, Ware founded a charity school for the blind in London (Power, Ware 2008).

Guillaume-René Lefebure, known as the **Baron of St. Ildephont (1778)**. In 1778, a London advertisement noted "The Baron of St, Ildephont, Occulist Physician to Monsieur the King of France's brother, operates gratis on the eyes every Tuesday". (Ildephont Jan 13, 1778, p. 7; see Belgium)

Tadiny (1778). In January 1778, "The Chevalier de Tadiny, Count Palatine, Occulist to the Court of France, whose Arrival in this Metropolis has already been announced...performs safe Operations of the Cataract, on Persons of all Ages, by Extraction..." (Tadiny Jan 30, 1778, p. 5)

In January 1778, Tadiny was back in London: "The Chevalier de Tadiny, Count of Palatine, Occulist to the Court of France...being arrived in this town...possesses a new method of extracting the Cataract in persons of all ages...enamelled false Eyes, and tubes for children that have a cast in the Eye. He cures the lachrymal fistula, without any operation." (Tadiny January 22, 1778, p. 3)

In August 1778, Tadiny was in Groningen, with plans to visit Brussels, and Paris (Huisman 1989).

Dr. Schedet (1778). "Doctor and Oculist Schedet, who lately arrived in Banbury" advertised in October 1778 that he had practiced "in several Parts of this Kingdom" (Schedet Oct 24, 1778, p. 3).

In January 1779, "Doctor and Oculist Schedet" advertised that he is "now arrived at Buckingham." (Schedet January 1779, p. 3)

John Aitken (1778). John Aitken (d. 1790), one of the surgeons at the Royal Infirmary of Edinburgh. Aitken took apprentices between 1778 and 1790 (Wallis 1988, p. 5). Aitken listed cataract extraction among the surgical operations in his 1779 treatise (Aitken 1779, p. 408). In his surgical treatise of 1783, Aitken described cataract couching and extraction, and reported that he had just invented new instruments for cataract extraction (Aitken 1783, vol. 2, p. 508). Aitken did "incise the capsule of the cataract" (Aitken 1783, vol. 2, p. 507), i.e. extracapsular extraction. Indeed, the General Register of patients at the Royal Infirmary of Edinburgh included 15 patients with cataract, 11 of whom were men, and

almost all of whom were admitted to the surgical ward (Risse 1986, pp. 122, 169). The most common ophthalmic procedure at the infirmary was scarification for ophthalmia (Risse 1986, p. 218).

Peter Degrauers (1780). Surgeon Peter Degrauers of France was listed among the “occulists” in London in 1783 (No author listed, medical register, 1783, p. 31). His ophthalmic treatise had been translated and published there in 1780. He performed extracapsular cataract extraction. (Degrauers 1780, pp. 273-4) He was practicing in Edinburgh by 1788 (Degrauers 1788). Degrauers advertised surgery for cataract and lacrimal fistula in Jamaica in 1791 (Leffler 1491).

William Butter (1783). William Butter devised novel instruments for performing cataract extraction while a student at Edinburgh, and tested them in “dead bodies” (Butter 1783, p. 200). He published his ideas in 1783 after moving to London (Butter 1783). Butter recommended making a scleral incision with a lancet one-quarter inch from the limbus, and removing the lens with a forceps (Butter 1783, pp. 200-5).

James Earle (c. 1784). James Earle (1755-1817) trained in surgery at St. Bartholomew’s Hospital, beginning his apprenticeship under Percivall Pott in 1762 (Wallis 1988, p. 477). Earle also married Pott’s daughter (Moore 2018). At the hospital, Earle became an assistant surgeon in 1770 (Moore 2018). From 1776 to 1784, when he became the hospital surgeon, Earle performed one third of the surgeries at St. Bartholomew’s Hospital (Moore 2018). Earle took apprentices between 1783 and 1804 (Wallis 1988, p. 180).

Earle was still practicing as a surgeon at St. Bartholomew’s Hospital in 1790, when the final edition of Pott’s treatise, which Earle edited, was published posthumously (Pott 1790).

In 1801, Earle published “An Account of a New Method of Operation for the Removal of the Opacity in the Eye, Called Cataract” (Earle 1801). Earle noted the disadvantages of both couching and extraction, the latter of which could damage the iris when the lens was forced through the pupil (Earle 1801, p. 19). He noted that Bell in his treatise had proposed pars plana lensectomy, and performed this surgery in animals, but not humans (Earle 1801, 24-6). Mr. Hodson of Lewes in Sussex had devised, but not actually used, a cataract needle used to extract remnants of the capsule (Earle 1801, p. 28). Earle designed a combination forceps with retractable lancet, which could be introduced through the pars plana, and then used to extract the lens (Earle 1801, 29-36). Earle claimed that he had used the instrument in people, and offered that even if the whole lens could not be removed, it could be divided with the forceps (Earle 1801, 29-36). Given the small incision which would be produced in this manner, in all probability Earle would only succeed in removing bits of the capsule and soft cortex in this manner. Indeed, he used the tool in a 17-year-old boy born blind who had a soft milky cataract (Earle 1801, p. 47). The boy was fitted with spectacles afterward (Earle 1801, p. 52). The other two cases in whom Earle used this instrument also were under the age of 40, and would probably have had soft cataracts (Earle 1801, pp. 53-65). Earle was knighted in 1807, and resigned from the hospital in 1815 (Moore 2018).

Robert Andrews (1784). Robert Andrews was listed as a surgeon and oculist on High Street in Southampton in Sadler's Hampshire Directory of 1784 (Sadler 1784, p. 145; Wallis 1988, p. 12).

Jean François Pellier (1784). Jean François Pellier (b. 1748) was born in Bar-le-Duc, France, the son of Jean-Henri Pellier, an oculist who had studied under Jacques Daviel. Pellier and his two younger brothers, Guillaume (b. 1751), and Denis Nicolas (b. 1753), all became oculists. (Dohlman p. 53) Jean François worked in Nancy for a number of years. (Dohlman p. 53)

Jean François practiced with each of his younger brothers as itinerants, in turn. Jean François and Guillaume practiced in Besançon, France in August 1773 and June 1774 (Dupont-Barron 1979). They advertised a water for healing all ocular maladies (Dupont-Barron 1979). They also performed cataract extraction (Dupont-Barron 1979).

Jean François and Denis practiced together as itinerants for several years. They were in Frankfurt am Main in 1775, in Cologne in 1776, in Copenhagen in 1777, in Stockholm in 1778, next in Russia, and then in Königsberg in October 1780, and finally in Berlin from July to September 1781 (Henning 2008, p. 347).

Jean François eventually traveled alone in the British Isles. He arrived in London in September 1784, advertising that "He has travelled in the dominions of all the foreign powers of the Northern parts". Also, "He operates the Cataract, per extractionem, in less than two minutes without any pain, with instruments of his own invention." He also had a new and secret method of curing "Lachrymal Fistulas".(Pellier Sep 14, 1784, p. 1).

He advertised in Williamson's Liverpool Advertiser on October 21, 1784 that the physicians of the Liverpool Infirmary and the Liverpool Dispensary vouched for his skills, including surgeons Henry Park, Edward Alanson, and John Lyon, all of the infirmary. These surgeons "having seen M. Pellier operate on the cataract...approve much of his dexterity in operating..."(Bickerton 1913, p. 213) He also announced in Liverpool that he would soon pass to Dublin to practice for a few weeks.(Pellier Nov 25-27, 1784, p. 1) Pellier announced his arrival in Dublin in December 1784 (Pellier Dec 2, 1784, p.)

By April 1785, Pellier had arrived in Aberdeen from Edinburgh by way of Perth and Dundee (Pellier Apr 23, 1785, p. 3). While in Edinburgh, he had "performed several operations upon blind people, before several Gentlemen of the Faculty."(Pellier Apr 23, 1785, p. 3) He intended to stay in Aberdeen for about a month.

Pellier advertised in London in September 1785 that he soon intended to reside in London. He had been in Glasgow in January 1785, in Aberdeen in April, and in Newcastle in July. He performed in front of the professors of the University of Edinburgh (as Benjamin Bell did indeed separately attest in his treatise). Pellier was currently at Sheffield, and would pass through Manchester, Birmingham, and Bristol (Pellier September 6-8, 1785, p. 3). While he was in Aberdeen the magistrates made him a "Member and Freeman of Aberdeen" because of his charitable treatments.(Pellier Nov 30, 1785, p. 1). He also listed his cures throughout the British Isles, including several born blind (Pellier Nov 30, 1785).

Pellier advertised in this *Liverpool Advertiser* on October 20, 1785 that he had practiced as an “Occulist” in Liverpool the previous year and performed in front of the faculty many cures, including that of Mrs. Hargreaves, age 70; Mrs. Pott; and Robert Christie, a 23-year-old musician “who was blind many years”. Pellier intended to reside in London (Bickerton 1913, p. 213).

Pellier had “every kind of spectacles and convexes, necessary to re-establish the sight in soundness, after being operated upon for the Cataracts. Persons who stand in need of the latter, are desired to give notice how old they are, if they cannot apply personally.”(Pellier Feb 1, 1786, p. 1)

Pellier was in London from December 1785 through April 1786, whereupon he announced his imminent departure for Amsterdam (Pellier Apr 17, 1786, p. 2).

In 1787, Benjamin Bell of Edinburgh reported that since the last edition of his surgical treatise, the respected oculist Jean François Pellier had arrived in the country. Bell reported Pellier’s technique for cataract extraction (Bell 1787, vol. 4, pp. 9-12).

Edward Lewis (Mr. Brunswick, Mr. Farland, 1785). In June 1785, “Messrs. Lewis and Co., Surgeons and Oculists” advertised their practice in Chelmsford. They cured all disorders of the eyes, but were not specific about whether cataract surgery was offered.(Lewis, June 10, 1785, p. 3)

The October 1786 advertisement in Bury of “Dr. Brunswick, Surgeon and Oculist” was essentially identical to that of Lewis, including that he had been in practice for 30 years.(Brunswick Oct 4, 1786, p. 3)

In November 1789, “Mr. Edward Lewis, Surgeon and Oculist” announced his arrival in Newcastle, from the Strand, London. He had studied and practiced for 30 years. He “cures all disorders in the eyes, even when blind, and turned out of Hospitals as incurable.”

In March 1790, “Mr. Farland, Surgeon and Oculist” announced his arrival in Whitehaven for 20 weeks. (Farland March 10, 1790) The advertisement was almost identical with that of Edward Lewis, including the time in practice of 30 years, and the recent cures on Tower Hill in London. Either Farland was an alias for Lewis, or Farland had split from Lewis and copied his advertisements. Mrs. Farland was available to treat women (Farland March 10, 1790). He also advertised as “Mr. Mac Farland”. Mr. Farland advertised in Bristol in August 1793 (Smith, p. 261).

Benjamin Bell (1772). Benjamin Bell (1749-1806) of Edinburgh took surgical apprentices between 1772 and 1795 (Wallis 1988, p. 44). In 1785, Benjamin Bell described cataract extraction in great detail (Bell 1785, vol. 3., pp. 406-10). From his own experience, he concluded that cataracts tended to harden the lens, but it was difficult to predict the hardness in advance of the surgery (Bell 1785, vol. 3, pp. 412-3). He definitely performed couching, as he reported that the vitreous was not injured by displacement of the lens into the vitreous during couching: “...I have often done the operation in this manner [couching], and I never observed any inconvenience to proceed from it.”(Bell 1785, vol. 3, p. 425) In 1785, he described cataract extraction in great detail, and was clearly familiar with specific

cases in which patients' cataracts had been extracted (Bell 1785, vol. 3, p. 446). However, it was not clear that he had performed cataract extraction himself. He had done experiments on variations of cataract extraction technique in animals, but had not tested these ideas in human patients (Bell 1785, vol. 3, p. 449-50). For instance, Bell had tested making the incision in the superior, rather than in the inferior, part of the cornea (Bell 1785, vol. 3, p. 452). Bell was not aware of anyone trying the surgery this way in humans (Bell 1785, vol. 3, p. 455). Bell compared couching with extraction, and favored couching (Bell 1785, vol. 3, pp. 460-5).

In 1787, he noted that the ophthalmic sections of his updated treatise were heavily influenced by the influence of Pellier to Edinburgh. In 1787, Benjamin Bell wrote: "I assisted Mr. Pellier in different cases where the cataract was extracted..." (Bell 1787, vol. 4, p. 12). Pellier convinced Bell that it was possible to accurately predict whether a cataract was hard or soft before the surgery (Bell 1787, vol. 4, p. 12).

In the 1796 edition of his treatise, Bell quoted the treatise on cataract extraction of Frederick Bischoff, calling him "an ingenious author" who had made "valuable practical observations" (Bell 1796, vol. 4, p. 207).

John Allard (1779). John Allard of London (b. 1721) earned a medical degree in Leyden in 1774. He advertised as an "Expert in Surgery Dentist, Oculist . . ." in Charleston, South Carolina in 1779 (Wallis 1988, p. 7; Leffler 2017).

Drs. Barnett and Paterson (1787). "Doctors Barnett and Paterson, Oculists" of Edinburgh advertised in Canterbury in June 1787 that they had "many valuable remedies, extracted from vegetables" (Barnett June 19, 1787, p. 4). Their practice appeared nonsurgical.

Abraham Gray (1788). Dr. Gray advertised as an oculist from London, now practicing in Manchester, in 1788 (Holme 1788, p. 41). He was still in Manchester in 1794 (Scholes 1794, 51).

In 1795, we read:

"Died...at his house...Dr. Gray, oculist, and livery man of London, in the 70th year of his age, of a short, but severe illness which he bore with great patience." (No author, Oct 13, 1795, p. 4)

William Brodum (1787) and Dr. Lamert. In November 1787, "Doctors Lamert and Brodum, Oculists" advertised that they were from London, but had returned to their apartments in Newport on the Isle of Wight to practice (Lamert Nov 5, 1787, p. 1).

In 1790, William Brodum of Germany advertised that "Dr. Brodum" was an "oculist" and "restores sight to those who have cataracts, though many years standing, in a few minutes, by a new method of operation." (Brodum 1790, p. 1). Brodum was still practicing in London in 1799 (Brodum 1799, p. 1).

In August 1792, “Dr. Lamert, Oculist” advertised that he had practiced in London for 24 years, and had cured a child of blindness. His practice did not sound surgical (Lamert Aug 18, 1792, p. 1)

Mr. Audouin (1788). “Mr. Audouin, French Occulist” advertised his treatment of sore eyes in London in April 1788.

Dr. Lignum (1788). “Dr. Lignum, Oculist and medical practitioner” advertised his “important vegetable discoveries” in Manchester in 1788.(Lignum Jan 8, 1788, p. 4)

Jean Arnoux (1788). In July 1789, “Count d’Arnoux, Physician and Oculist” published “A Prospectus of a Remedy both useful and efficacious in the cure of the Eyes...” to make spectacles unnecessary (Arnoux July 15, 1789, p. 1). “Le Sieur D’Arnoux, Physician and Oculist” advertised in Bath in 1790 that he had been practicing for two years in London. He claimed to cure: “Cataracts removed without the assistance of any instrument, and without pain; old Disorders in the Eyes, occasioned by the Small-Pox”(Arnoux, Oct 7, 1790, p. 2)

In 1796, Jean Arnoux described himself as “Doctor of Physic and Occulist” of Westminster in the county of Middlesex (Arnoux 1796, p. 1).

John Thomson (1789). John Thomson (1765-1846) apprenticed for 3 years, beginning in 1785, under Dr. White of his hometown of Paisley, Renfrewshire (Power Thomson 2004).

A letter to “Dr. Thomson”, dated to between 1780 and 1789, relates to a cataract he couched in a young female in Sutherland (Univ. of Glasgow).

He studied at universities in Glasgow and then Edinburgh, before working as an assistant apothecary at the Royal Infirmary, Edinburgh, beginning in September 1790 for one year, and then working as a surgeon there. In 1792, he studied at the school of medicine at Leicester Square run by John Hunter (Power Thomson 2004). Thomson returned to Edinburgh early in 1793, and worked at the Royal Infirmary as a surgeon (Power Thomson 2004). In January 1808, Thomson was awarded a medical doctorate from the University of Aberdeen. He lectured on the diseases of the eye in 1819, “paving the way for the establishment of the first eye infirmary in Edinburgh in 1824”(Power Thomson 2004).

S. Pass (1789). “S. Pass, the Italian Doctor and Occulist” advertised in Birmingham in 1791 that he had been in practice for 40 years, and that he has had so much success in Birmingham over the past two years that he has decided to reside there. In addition, “The Doctor may be consulted in five different languages.”(Pass Aug 29, 1791, p. 1) He called himself “Dr. Pass” and advertised: “Cataracts pressed and extracted with the utmost care and attention”.(Pass Aug 29, 1791, p. 1)

Richard Reeve (1790). On July 28, 1790, the Bury and Norwich Post reported that “Susan Ribbans, a pauper,...who had a cataract in each eye, and had been totally blind for 11 years, was restored to sight by Mr. Richard Reeve, jun. surgeon, at Gilsingham, and she can now see the minutest object.” He advertised further ophthalmic cures in the Ipswich

Journal in September 1790 (Irvine 2011, p. 190). In 1786, Richard Reeve had sought an apprenticeship at Gislingham (Van Zwanenberg/Reeve).

It has been assumed that this ophthalmic surgeon was the same as the Richard Reeve (1739-1807) who was apprenticed to Richard Rose of Hartest for 7 years in 1753 (Wallis "18th cent medics" 1985, p. 250; Zwanenberg/Reeve). By 1760, Reeve had settled at Botesdale in 1760, and had left Botesdale and gone bankrupt by 1764 (Van Zwanenberg/Reeve). However, this information could pertain to the father Richard Reeve, Sr.

Jonathan Wathen (Phipps) Waller (1791). The father of Jonathan Wathen Phipps (1769-1853) (Wallis 1988, p. 624) died when he was just 3 years old, and so Phipps was raised in the London home of his grandmother's second husband, the oculist Jonathan Wathen (Hayward 2014, p. 1-3).

Phipps began a 7-year apprenticeship with Wathen and his partner James Ware in 1784 at the age of 16 years (Hayward 2014, p. 4). Phipps later recalled being in Paris during the revolution in July 1789, though whether he was there as part of his studies is not known (Hayward 2014, p. 4). In 1790, Phipps wrote a poem entitled Lecture Room at Guy's Hospital (Hayward 2014), indicating that some of his training was probably with surgeons at the hospital such as Joseph Warner. In 1791, Phipps became the partner of Wathen in place of Ware (Hayward 2014). In 1792, Phipps added a Dissertation on the Treatment after the Operation for Cataract to the second edition of Wathen's treatise on Fistula Lachrymalis (Hayward 2014, p. 8).

Phipps was appointed the royal oculist on April 20, 1796 (Bucholz Index P; Hayward 2014, p. 9).

In 1799, he was described as: "Mr. Phipps, Surgeon and Oculist in ordinary to the King" (Thornton 1799-1800, p. 495)

In 1814, he changed his last name to Waller.

Samuel Crawcour (1791). "Samuel Crawcour, Dentist, Occulist, and Operator Upon Corns" advertised in Oxford in June 1791 that he sells "his celebrated Optic Drops for the Eyes" (Crawcour June 15, 1791, p. 3). His practice sounds non-surgical.

Frederick Bischoff (1791). In 1791, it was announced that "Mr Bishoff, Oculist to His Majesty at Hanover...is arrived in London"(Bischoff Sep. 17, 1791, p. 1) In January 1792, it was announced that "The Queen has been pleased to appoint...Mr. Frederick Bischoff to be Oculist."(No author, Jan 1, 1792, p. 51) When Bischoff published his treatise on cataract extraction in London in 1793, he indicated that he had lived in that city for the past two years (Bischoff 1793, p. iii). He was the oculist to the Queen in 1793 and 1795 (Rider 1793, p. 101; No author, Jamaica, 1795, p. 25). To avoid patient anxiety during cataract surgery, Bischoff recommended "avoid letting the patient be acquainted with the hour intended [for surgery], and take him by surprise."(Bischoff 1793, p. 12) Also, if the patient was afraid, he was given one hour before surgery "one grain of opium with some wine."(Bischoff 1793, p. 30) After the limbal incision was made, Bischoff dilated the pupil by darkening the room

(Bischoff 1793, pp. 53-4). Then, one could see if the lens in its capsule would be extruded from the eye with “soft pressure”(Bischoff 1793, pp. 53-4). However, if the lens failed to come forward, a large incision was made in the capsule (Bischoff 1793, p. 55).

Dr. Cottier (1792). “Dr. Cottier, Physician and Oculist from London” advertised his medicines in Bury in April 1792.(Cottier Apr 25, 1792, p. 3)

Zacch Gillet (1793). “Dr. Zacch, Oculist, Honorary Member of the Society of Leyden” announced his intention to practice in Sheffield in 1793.(Zacch Gillet March 22, 1793) He could “be consulted in all Physical and Chirurgical Cases”. (Zacch Gillet March 22, 1793) He cured “Blindness, or any other Impediment in the Eyes”. (Zacch Gillet March 22, 1793) In addition, “The Doctor couched, and restored to Sight...the Wife of John Oliver...who from the Small-pox, had been blind for [illegible] Years.” (Zacch Gillet March 22, 1793)

In 1799, “Dr. Zacch Gillet, Physician and Oculist” advertised his cures with vegetable medicines around Leeds (Zacch Gillet June 3, 1799).

Mr. Johnson and John Dunn (1793). In December 1793, a notice read:

“Run away from his Master. Johnn Dunn, Apprentice to Mr. Johnson, Oculist in Liverpool, and is supposed to be travelling the country as a quack doctor.”

Dunn was about 20 years old, and "has lost a tooth in the front of his mouth". There was a one guinea reward to anyone who apprehended Dunn and gave notice to a druggist in York.

Johnson the surgeon and oculist advertised in Hull in 1811 that he had studied at St. Thomas's and Guy's Hospital in London and on the Continent. He could be consulted from 10 AM to 10 PM at a clothing warehouse in Blackfriargate and would treat “blindness, cancer, strangury, rheumatism, scurvy”, but only those cases he could cure (Bickford 1983, p. 67).

Dunn apparently got away. He advertised in Leeds in 1799 as “Dr. Dunn, Occulist”, who addressed “Physical and Chirurgical Cases...He also cures, all Disorders in the Eyes, even when blind, and turned out of Hospitals as incurable...”(Dunn, May 20, 1799, p. 4)

In 1815, “Dr. Dunn” advertised in Hull that he would see patients from 10 AM to 10 PM to treat blindness, deafness, ruptures, cancers, jaundice and impotence (Bickford 1983, p. 156). Dunn also advertised as an oculist in Ipswich in 1810 and 1826 (Zwanenberg/Dunn).

Dr. Stopani (1793). “Dr. Stopani & Co. the Italian Doctors & Oculist, From the University of Padua” advertised their practice in London in 1793. The doctors had been in practice for 40 years. It is not clear if they would perform any surgeries (Stopani 1793, p. 1).

James Latta (1793). Surgeon James Latta of Edinburgh wrote a treatise in 1793 in which he described cases in which he performed couching with a round needle (Latta 1793, vol. 2, pp. 246-8). Latta had seen cataract extraction performed in Scotland (Latta 1793, vol. 2, p. 276), but it does not seem that he performed extraction himself.

Dr. Semonetti (1794). In 1794, “Dr. Semonetti, Occulist” advertised in Manchester his ophthalmic cures, which required several weeks to work (Semonetti, Aug. 19, 1794, p. 4).

“Dr. Simonetti. Aurist and Oculist” announced his practice in Chester in 1795 (Simonetti Feb. 20, 1795, p. 3). His practice was apparently nonsurgical.

John Cunningham Saunders (1795). John Cunningham Saunders (1773-1810) of Devon was apprenticed for 5 years to surgeon John Hill of Barnstaple, beginning in 1790 (Power Saunders 2004). In 1795, Saunders began training at St. Thomas’s and Guy’s Hospitals in London (Power Saunders 2004). He studied anatomy under Astley Paston Cooper, and demonstrated anatomy at St. Thomas’s Hospital beginning in 1797. He practiced in “the country” from 1801 to until his return to St. Thomas’s Hospital in 1803. Along with John Richard Farre (1775-1862), Saunders co-founded the London Infirmary for Curing Diseases of the Eye at Moorfields, which opened on March 25, 1805, and in 1899 changed locations and became known as the Moorfields Eye Hospital (Power Saunders 2004). By March 1808, Saunders had operated for cataracts on 14 patients “born blind”, the youngest just two months old (Saunders 1811, p. xvi). In children, before cataract surgery, he dropped into the eye belladonna extract (Saunders 1811, p. 138) The eye was fixed with a “Pellier’s elevator” (Saunders 1811, p. 138) Four to five assistants were required to hold the child (Saunders 1811, p. 138). The needle entered the eye in the peripheral cornea, passing anterior to the iris (Saunders 1811, p. 140-1). The needle was used to disrupt the anterior capsule and the substance of the lens (Saunders 1811, pp. 141-2).

Saunders recommended extract of belladonna for “inflammation of the iris” to prevent “obliteration of the pupil” (Saunders 1811, p. 21). In 1806 and 1807, Saunders operated on adult cataracts by dividing them with a needle, but often observed “dangerous inflammation”(Saunders 1811, p. 165). Farre summarized the current status of extraction vs. couching or division: “Surgeons who can extract well, are entitled to make this election; but it is too well known how very limited the success of extraction in general practice has proved...”(Saunders 1811, p. 173) Saunders taught Adams, who then established a similar eye infirmary at Exeter (Saunders 1811, p. xviii). Saunders also taught Mr. Stevenson for 3 months at the eye infirmary (Saunders 1811, p. xviii-xix).

His treatise on eye diseases was published posthumously by Farre in 1811 (Saunders 1811).

Mr. Benjamin (1797). “Mr. Benjamin, Occulist” advertised his medicines for “rheumatism” in Manchester in 1797. The practice sounded nonsurgical.

Edward Moore Noble (1797). Edward Moore (or More) Noble was a “surgeon and oculist” active in Birmingham at the turn of the century (No author listed, June 29, 1870, p. 6). Noble began an apprenticeship with surgeon John Barr of Birmingham beginning in 1791 (Wallis 1988, p. 436). Edward Noble was listed as a “surgeon and oculist” on Paradise St., in Birmingham in Pye’s Birmingham Directory for 1797 (Pye 1797). In 1800, he published a Treatise on Ophthalmology. He did perform cataract extraction (Noble 1991, p. 135-7).

Dr. Knapp (1798). “Dr. Knapp, Operator for Shoes and Boots, Dentist, Oculist, Chiropedist, and Phlebotomist” advertised his dispensary in Ipswich in 1798. He would make house calls in which “Teeth and stumps returned to the proprietors...the operation performed for the run of the kitchen.” He has been in practice for 30 years. It is unlikely he would have performed cataract surgery.

Mr. Vowles (1798). “Mr. Vowles, Surgeon and Oculist” cures wens and cancers near the eye. He probably did not perform cataract surgery.

Joseph Brevitt (1798). Joseph Brevitt (1769-1839) advertised cataract extraction upon his arrival in Baltimore in 1798 (Leffler 2017). One Joseph Brevitt began an apprenticeship with surgeon John Evans of Stourbridge, Worcestershire on April 2, 1784 (Wallis 1988, pp. 75, 190).

William Beer (1799). William Bere entered an apprenticeship as a surgeon and apothecary with John Abell in 1772 (Wallis 1988, p. 40). William Beer was listed as an “Occulist” at 2 Ely-place in Holborn in Holden’s triennial directory of 1799 (Holden 1799, p. 47).

Henry Buxton (1799). “H Buxton”, was a surgeon in Dublin in 1781. Henry Buxton, oculist, was listed on Charlotte Street, St. Pauls, in Matthews Complete Bristol Directory of 1799 (Matthews 1799).

References.

Adamson EH. Some further notices of Dr. Thomlinson, the founder of the Thomlinson Library. *Archaeologia Aeliana, Or, Miscellaneous Tracts Relating to Antiquity*. Vol. X. Society of Antiquaries of Newcastle-upon-Tyne. Newcastle-Upon-Tyne. Reid: 1885: 80-87. **Aitken J.** Systematic elements of the theory and practice of surgery: By John Aitken, Fellow of the Royal College of Surgeons; one of the Surgeons of the Royal Infirmary; Member of the Medical Society; and Lecturer on Chirurgical Anatomy and Pharmaceutic Chemistry; in Edinburgh. Edinburgh: Gordon 1779, p. 408. **Aitken J.** Elements of the theory and practice of physic and surgery. By John Aitken, M. D. Fellow of the Royal College of Surgeons; one of the Surgeons of the Royal Infirmary; Member of the Royal Medical Society-of Edinburgh. Vol. 2., London: Dilly 1783, p. 508. **Allason-Jones L.** Health care in the Roman north. *Britannia* 1999; 30: 133-46. **Amery JS.** Devon and Cornwall Notes and Queries, Volume 9. Exeter: J.G. Commin, 1917, p. 245. **Amundsen DW.** Medieval canon law on medical and surgical practice by the clergy. *Bulletin of the History of Medicine*. 1978; 52(1):22-44. **Anderson JR.** The Burgesses & Guild Brethren of Glasgow, 1573-1750. Edinburgh, Skinner: 1925: 293. **Andrews JP.** History of Great Britain, from the death of Henry VIII. to the accession of James VI. of Scotland to the crown of England. London: Cadell, 1796: 71. **Angelo-Tremamondo F.** Unto the Right Honourable the Lords of Council and Session, the petition of Francis Angelo-Tremamondo, master of the academy in Edinburgh. Edinburgh, 1771a: 1-9. **Angelo-Tremamondo F.** Answers for Francis Angelo-Tremamondo, master of the academy of Edinburgh; to the petition of Philip Anthony Miller, oculist in Edinburgh. Edinburgh, 1771b: 1. **Appleby F. I** Francis Appleby. *Stamford Mercury*. September 29, 1720. XVI(14): 12. **Arber E.** The Term Catalogues, 1668-1709, A.D.: 1697-1709; and Easter term 1711 A. D. Vol. III. London: Arber, 1906: 511. **Arnoux J.** Count d’Arnoux, Physician and Oculist. *World (London)*, July 15, 1789; Issue 790, p. 1. **Arnoux J.** Le Sieur D’Arnoux, Physician and Oculist. *Bath Chronicle and Weekly Gazette* October 7, 1790. No. 3117. P. 2. **Arnoux J.** Copies of several exemplifications of patents, passed in Great-Britain, relative for spinning flax. Published by order of the Right Hon. and Hon. the Trustees of the Linen Manufacture. Dublin: [s.n.], 1796: 1. **Audouin.** Mr. Audouin, French Oculist. *World (1787) (London, England)*, Wednesday, April 16, 1788; Issue 405: 4. **Baggs AP, Bush RJ,** 'Parishes: Crewkerne', in: Dunning RW (ed.) *A History of the County of Somerset: Volume 4*. London: 1978: 4-38. british-history.ac.uk **Bailey W.** Bailey's British directory; or, merchant's and trader's useful companion, for the year 1784, in four volumes. Vol. 2. London: Andrews, 1784: 445. **Baker PA.** Medical Care for the Roman Army on the Rhine, Danube and British Frontiers in the First, Second and Early Third Centuries AD. Thesis University

of Newcastle upon Tyne. 2000. **Baker R.** Robert Baker (Oculist and Chyrurgeon). The Domestick intelligence, or News both from City and Country Impartially Related (London), September 5, 1681, Issue 30, p. 2. **Baker S.** Henry Fielding's the Female Husband: Fact and Fiction. PMLA, Vol. 74, No. 3 (Jun., 1959), pp. 213-224. **Bakewell S.** 'Bayley, Walter (1529–1593)', Oxford Dictionary of National Biography, Oxford University Press, 2004 oxforddnb.com **Bannerman WB.** Miscellanea Genealogica et Heraldica. Vol. V. Third Series. London: Mitchell Hughes and Clarke. 1904: 290. **Bannerman WB.** Miscellanea Genealogica et Heraldica. 4th series. Vol. III. Part I. March 1908. London: Mitchell. 1908: 139. **Barnett,** Paterson. Doctors Barnett and Paterson, Oculists. Kentish Gazette. Canterbury. June 19, 1787. No. 1982. p. 4. **Barron K.** Verrio, Antonio. (c. 1639–1707). Oxford Dictionary of National Biography. 2008. **Beck RT.** The cutting edge: early history of the surgeons of London. London: Lund Humphries, 1974. **Beier LM.** Seventeenth century English Surgery: the casebook of Joseph Binns. In: Lawrence C. (ed.). Medical theory, surgical practice : studies in the history of surgery. London: Routledge, 1992: 48-84. **Bell B.** A system of surgery. By Benjamin Bell, Member of the Royal College of Surgeons of Edinburgh, and one of the Surgeons to the Royal Infirmary of that City. Edinburgh: Elliot, 1785, vol. 3, p. 406-55. **Bell B.** A system of surgery. By Benjamin Bell, Member Of The Royal Colleges Of Surgeons Of Ireland And Edinburgh, One Of The Surgeons To The Royal Infirmary, And Fellow Of The Royal Society Of Edinburgh. Vol. IV. Edinburgh: Macfarquhar and Elliot, 1787: 9-12. **Bell B.** A system of surgery. By Benjamin Bell. Volume III. Edinburgh: Elliot, 1789: 429. **Bell B.** A system of surgery: by Benjamin Bell, Member of the Royal Colleges of Surgeons of Ireland and Edinburgh, One of the Surgeons to the Royal Infirmary, and Fellow of the Royal Society of Edinburgh. Edinburgh: Bell, 1796, p. 207. **Bell J.** Wokingham in the News (Extracts from local newspapers) 1858 to 1999. The Wokingham Society. 2016. wokinghamsociety.org.uk **Benjamin.** Mr. Benjamin, Occulist. Manchester Mercury. May 2, 1797. No. 2384. p. 4. **Bennell J.** Guercy, Balthasar. 2008. Oxford Dictionary of National Biography. **Bensusan-Butt J,** D'Cruze S. Colchester people: the John Bensusan Butt biographical dictionary of eighteenth century Colchester. Vol. 2. London: Lulu, 2010: 84. **Benvenuti G.** The famous Physician and Occulist, Dr. Benvenuti. Manchester Mercury. October 14, 1766. No. 805. p. 2. **Berridge V.** The princess's garden : royal intrigue and the untold story of Kew. Stroud, Gloucestershire : Amberley, 2015. np. **Berry P.** Irish Berry Genealogy. Dovegrove Berry Family Tree. sites.google.com/site/irishberrygenealogy/dovegrove-berry-tree **Bevan M.** Bromfield, William (bap. 1713, d. 1792). Oxford Dictionary of National Biography Online. 2004. **Bickerton TH.** An address on the influence of the British Medical Association in the establishment of ophthalmology as a special science. British Med J. 1913; 2(2744):213-7. **Bickford JAR.** The Medical Practitioners in Hull. 1400-1900. A Biographical Dictionary. Hull. City Council. 1983. 48. **Bickley FB.** Catalogue of the Manuscripts and Muniments of Alleyn's College of God's Gift at Dulwich. Second Series. London. Published by the Governors. 1903: 45. **Bischoff F.** Mr Bishoff, Oculist to His Majesty at Hanover. World (London). September 17, 1791; Issue 1471: 1. **Bischoff F.** A treatise on the extraction of the cataract. By Frederick Bischoff, F.M.S. oculist to his Majesty in the Electorate of Hanover, and to her Majesty in England. London: Bulmer, 1793: iii. **Black WH.** A descriptive, analytical, and critical catalogue of the manuscripts bequeathed unto the University of Oxford by Elias Ashmole. Oxford. University of Oxford. 1845: 1259. **Blanchard DL.** George Handel and his blindness. Documenta Ophthalmologica 1999; 99: 247–258. **Bliquez LJ.** The tools of Asclepius : surgical instruments in Greek and Roman times. Leiden ; Boston: Brill, 2015. **Blundell N,** Gibson TE. Crosby records. Blundell's diary, comprising selections from the diary of Nicholas Blundell, esq., from 1702 to 1728. Liverpool, G.G. Walmsley, 1895: 86, 87, 104, 106. **Blundell N.** The Great Diurnal of Nicholas Blundell of Little Crosby, Lancashire. Vol. 110. Chester: Record Society of Lancashire and Cheshire. 1968. p. 257-64. **Blundell N.** The Great Diurnal of Nicholas Blundell of Little Crosby, Lancashire. Vol. 112. Chester: Record Society of Lancashire and Cheshire. 1968. p. 24. **Blundell N.** The Great Diurnal of Nicholas Blundell of Little Crosby, Lancashire. Vol. 114. Chester: Record Society of Lancashire and Cheshire. 1968. p. 69. **Borthwick G.** A treatise upon the extraction of the

crystalline lens. By George Borthwick, Surgeon of the Fourteenth Regiment of Dragoons. Edinburgh: Elliot, 1775: 1-29. **Borthwick** G. A cataract in the eye, with a praeternatural membrane attached to the iris, extracted. By Mr. George Borthwick, Student of Physic at Edinburgh. Medical and philosophical commentaries. Volume first. Part I. London: Murray, 1774: 84-6. **Bosenberg**. Mr. Bosenberg, Oculist, of Bury-Street. St. James's Chronicle or the British Evening Post (London, England), January 7, 1769 - January 10, 1769; Issue 1227: 3. **Boswell** J. The Life of Samuel Johnson, LL.D.: Including a Journal of a Tour to the Hebrides. Volume 1. London: Murray, 1831: 221. **Boucher** P, Murdoch T. Montagu House, Bloomsbury: a French household in London, 1673-1733. In: Kelly D, Cornick M. A History of the French in London. London: University of London. 2013: 43-68. **Boyes** J. Medicine and Dentistry in Newcastle upon Tyne in the Eighteenth Century. Proceedings of the Royal Society of Medicine. 1957: 229-235. **Bowden** N. Be it knowne vnto all men, that I Nicholas Bowden chirurgion, cutter of the stone, and also occultest, curer of the ruptures without cutting, with the helpe of almightie God, can cure and helpe these sicknesses and infirmities following. London: J. Roberts. 1605. **Bracken** H. For the Benefit of Mankind in general...by Dr. Bracken. London Evening Post. Dec. 28 - 30, 1731; Issue 637: 3. **Bracken** H. Farriery improv'd: or, a compleat treatise upon the art of farriery. London: Clarke, 1737: 215-7. **Bracken** H. Printed for James Hodges. London Daily Post and General Advertiser. April 26, 1740; Issue 1718: 2. **Bradley**. Mr. Bradley, Surgeon and Oculist. Daily Courant (London), August 14, 1714; Issue 3996: 2-3. **Brett** C. Antonio Verrio (c1636-1707): His career and surviving work. The British Art Journal. 2009 Dec 1;10(3):4-17. **Brinsden**. Sir Wm Read's Brother Mr. Brinsden Oculist and Surgeon. Daily Courant (London, England), Wednesday, October 13, 1708; Issue 2075. p. 2. **Brinsden** J. I Jane Evans...a Son near 7 years of Age...Mr J. Brinsden, Oculist. Post Man and the Historical Account. London. November 25-27, 1708, Issue 1983. p. 2. **Brinsden** J. I John Willot...Mr. Brinsden, Surgeon and Oculist. Post Boy. London. Dec 1-3 1709. Issue 2271. p. 2. **Brodum** W. Dr. Brodum, oculist and herbalist, (from Mecklengurgh [sic] Strelitz, in Germany). London : s.n., 1790: 1. **Brodum** W. A guide to old age, or a cure for the indiscretions of youth. By William Brodum, M.D. London: Myers, 1799: 1. **Bromfeild** W. Chirurgical Observations and Cases. By William Bromfeild, Surgeon to Her Majesty's Household, and to St. George's Hospital. Vol. I. London. Cadell, 1773. **Bromfeild** W. Chirurgical Observations and Cases. By William Bromfeild, Surgeon to Her Majesty's Household, and to St. George's Hospital. Vol. II. London. Cadell, 1773. **Bromley** E. E. Bromley, Oculist. General Advertiser (London), December 15, 1747; Issue 4099: 4. **Bromely** E. E. Bromley, Oculist. General Advertiser (London). April 20, 1749. Issue 4516: 4. **Brown** R. Baty, Richard (bap. 1696, d. 1758). Oxford Dictionary of National Biography. 2004. Accessed September 2, 2019. **Brown** T, Steuart AF. Diary of Thomas Brown Writer in Kirkwall 1675-1693. Kirkwall: Peace, 1898: 42-3. **Browne** J. A compleat treatise of preternatural tumours both general and particular as they appear in the human body from head to foot. London: Clavel, 1678: 244-5. **Browne** T, Wilkin S (ed.). Sir Thomas Browne's works: including his life and correspondence. Vol. 1. London: Pickering. 1836. **Brunswick**. Dr. Brunswick, Surgeon and Oculist. Bury and Norwich Post October 4, 1786.No. 222.page 3. **Bucholz** RO (ed.). "Index of officers: Ci - Co." Office-Holders in Modern Britain: Volume 11 (Revised), Court Officers, 1660-1837. London: University of London, 2006. 855-900. British History Online. British-history.ac.uk **Bucholz** RO. "Index of officers: P." Office-Holders in Modern Britain: Volume 11 (Revised), Court Officers, 1660-1837. London: University of London, 2006. 1327-1384. British History Online. British-history.ac.uk **Bucholz** RO (ed.). "Index of officers: Si - So." Office-Holders in Modern Britain: Volume 11 (Revised), Court Officers, 1660-1837. London: University of London, 2006. 1465-1491. British History Online. British-history.ac.uk **Bullein** W. Bulleins bulwarke of defence against all sicknesse, soarenesse, and vvoundes that doe dayly assaulte mankind...by VVilliam Bullein, Doctor of Phisicke. 1562. London: Marshe, 1579: 26. **Burn** R. The Justice of the Peace, and Parish Officer, Volume 1. London: Cadell, 1772: 68. **Butler** J. In the Strand...where a barber's pole hangs out, liveth John Butler, an expert operator and oculist. [London, 1682] **Butler** SM. Medicine on trial: regulating the health professions in later medieval

England. *Florilegium*. 2011; 28:71-94. **Butter** W. An improved method of opening the temporal artery. Also, a new proposal for extracting the cataract. With descriptions and delineations of the instruments contrived for both Operations. By the author, when a Student at Edinburgh. To which are now added, a miscellaneous introduction, and cases, and observations. London: Robson, 1783, pp. 200-5. **Bynum** WF, Porter R. William Hunter and the eighteenth-century medical world. Cambridge: Cambridge University Press, 1985: 92-93. **Cameron** CA. Hnceistory of the Royal College of Surgeons in Ireland, and of the Irish schools of medicine: including numerous biographical sketches, also a medical bibliography. Dublin: Fannin. 1886: 368. **Capener** N. John of Gaddesden. *Annals of surgery*. 1961; 154(Suppl 6):13-17. **Capener** N. Chaucer and Doctor John of Gaddesden. *Annals of the Royal College of Surgeons of England*. 1972;50(5):283. **Carlin** M. Gaddesden, John (d. 1348/9). *Oxford Dictionary of National Biography*. **Carlyle** EI, Carter P. Winstanley, Thomas (1749–1823). *Oxford Dictionary of National Biography*. 2008. **Carson** HJ. Public health and research in the development of Russian ophthalmology. *Documenta Ophthalmologica* 71: 167-193, 1989. **Caulfield**. Dr. Caulfield's notes on Cork events in the years 1769 and 1781. *Journal of the Cork Historical and Archaeological Society*. vol. 11. Second Series. 1905. **Cawood**. Mr. Cawood, Oculist, Nephew to the deceas'd Sir Charles Scarborough. *Post Man and the Historical Account* (London), November 19 - 21, 1702; Issue 1051: 2. **Chalibert**. Mr. Chalibert, Oculist from Paris. *Public Advertiser* (London, England), Monday, February 28, 1774; Issue 12959: 4. **Chalibert**. A Disseration upon the Gutta Serena, The Paralysis of the Retina, and the Progress of Cataracts. London: Ridley, 1774. **Chamberlain** M. *Old Wives' Tales: the History of Remedies, Charms and Spells*. New York : The History Press, 2012. **Chamberlin** FC. The private character of Queen Elizabeth. London: John Lane, 1922. **Chambers** R. *Domestic Annals of Scotland. From the Reformation to the Revolution*. vol. II. 3rd ed. Edinburgh: Chambers. 1874: 347-487. **Chambers** R. *Domestic Annals of Scotland: from the Revolution to the Rebellion of 1745*. Vol. III. 3rd ed. Edinburgh: Chambers, 1874: 85-625. **Chandler** G. A treatise of a cataract, its nature, species, causes and symptoms, With A Distinct Representation of the operations by couching and extraction: and Mr. Daviel's comparative view of their respective merits. London: Chandler, 1775. **Chandler** G. A treatise on the diseases of the eye, and their remedies. London: Cadell 1780, pp. 169-71. **Chapman** A. *Medical and Surgical Therapeutics: Scientific Advances in the Tudor Era*. 2011. gresham.ac.uk **de Chauliac** G, Ogden MS (ed.) *The cyrurgie of Guy de Chauliac*. Vol. 1. Text. London: Oxford University Press, 1971: 467. **Cheese**. Drs. Cheese and Co. Oculists. *The Ipswich Journal* January 27, 1787. No. 2460. p. 3. **Cheese**. Dr. Cheese, Oculist. *Bury and Norwich Post* July 4, 1787. No. 261. p. 3. **Cheselden** W. The anatomy of the humane body...By W. Cheselden, Surgeon; Fellow of the Royal Society. London: Cliff, 1713. **Cheselden** W. The anatomy of the humane body...By W. Cheselden, Surgeon to St. Thomas's-Hospital. London: Collins, 1722. **Cheselden** W. The anatomy of the human body...By W. Cheselden, Surgeon to St. Thomas's-Hospital, And Fellow of the Royal Society. London: Bowyer, 1726. **Cheselden** W. John Egerton...was couch'd for a Cataract by Dr. Cheselden. *British Journal*. May 13, 1727. Issue 243: 3. **Cheselden** W. The anatomy of the human body. By W. Cheselden, Surgeon to his Majesty's Royal Hospital at Chelsea Fellow of the Royal Society And Member of The Royal Academy of Surgeons at Paris. London: William Bowyer, 1740. **Chubb** R. Dr. Richard Chubb, who besides the advantage of Liberal Educatio. *Old Post-Master* (London, England), June 30, 1696 - July 2, 1696; Issue 4: 2. **Chubb** R. Dr. Chubb, the Oculist, who cures all curable Distempers incident to the Eyes. *Flying Post or The Post Master* (London, England), April 15-18, 1699; Issue 614: 2. **Chubb** R. Dr. Chubb, an experience'd Oculist. *Post Boy* (1695) (London, England), Oct. 4-6, 1709; Issue 2246: 2. **Church** J. A compendious enchiridion touching most distempers incident to the body of man, with the best and easiest cures thereof...[I]n all my travels with Salvator Winter, and many years after with that famous phisitian and chirurgeon John Ponteus; I never exacted on, or denied the poor my skill and medicines gratis, but still my house to them was as free as an hospital; the like never hath been performed but by your friend and neighbor John Church. [London]: Printed for the author, 1682: 2. **Church** J. Will of John Church, surgeon & doctor oculist. 1712. Record

Transcription: Oxfordshire Wills Index, 1516-1857. findmypast.com. **Clark A.** Register of the University of Oxford. Vol. II. (1571-1622) Part I. Introductions. Oxford: Clarendon Press. 1887. p. 406. **Clark T.** Dr. Clarke...was Physician and the only sworn Oculist to King Charles the second. Athenian Gazette or Casuistical Mercury (London, England), Saturday, April 6, 1695; Issue 2. page 2. **Clark T.** Dr. Clark...who was Physitian and Oculist in Ordinary to King Charles II. Post Man and the Historical Account (London, England), September 4-7, 1697. Issue 367. p. 2. **Clark T.** Dr. Clark, the expert Oculist...particularly in Couching Cataracts. Flying Post or The Post Master (London, England), August 22, 1699 - August 24, 1699; Issue 669 **Clark T.** Dr. Clark's great Success in restoring the Blind to Sight. Daily Courant (London, England), Saturday, April 28, 1705; Issue 947. page 4. **Clark T.** Dr. Clark...instantly restor'd the Lady Bellasis to sight, 15 years blind with Cataracts. Post Man and the Historical Account (London, England), November 15-17, 1705; Issue 1554, p. 2. **Clark T.** Physician and the first Sworn Oculist to King Charles and King James II. Post Man and the Historical Account (London, England), April 24-26, 1707; Issue 1772, p. 2. **Clark T.** A Gentleman lately come over from the West-Indies, who was Stone Blind of a Gutta Serena. Post Boy. (London), December 14-16, 1708; Issue 2120. p. 2. **Clark T.** Dr. T. Clark, Physician and Oculist Elect to several Crown'd Heads Evening Post. (London), May 3-6, 1718; Issue 1366. Number 1366, page 5. **Clark T.** Dr. T. Clark, Physician and Oculist to King Charles II'd... The Doctor, and also his Son, Coucheth cataracts. London Journal. London: Saturday, August 18, 1722; Issue CLX. p. 4. **Clark T.** Dr. Clark, elect Oculist by several Crown'd heads. Mist's Weekly Journal (London, England), Saturday, November 19, 1726; Issue 83. page 4. **Clay JW** (ed.). Familiae Minorum Gentium. Diligentia Josephi Hunter, Sheffieldiensis. Vol. II. London: Hunter, 1895: 731. **Cleghorn G.** Index of an annual course of lectures. By George Cleghorn. Anatomist to Trinity-College. And Surgeon in Dublin. Dublin: University Press. 1767: 52. **Cleland A.** XXVII. A description of needles made for operations on the eyes, and of some instruments for the ears, by the same. 1740; 41 (461): 847-51. **Clowes W,** Baker G, Banister J, Day J. A short and profitable treatise touching the cure of the disease called (Morbus Gallicus) by unctions, set forth by William Clowes, of London, chirurgion. London: Daye, 1579. pp. 35-38. **Clowes W,** Banister J, Baker G. A briefe and necessarie treatise: touching the cure of the disease called Morbus Gallicus, or Lues Venerea, by unctions and other approved waies of curing. London. Cadman, 1585, pp. 8-13. **Clowes W.** A prooued practise for all young chirurgians, concerning burnings with gunpowder, and woundes made with gunshot, sword, halbard, pyke, launce, or such other. London: Orwyn, 1588: 72. **Collinson P.** Grindal, Edmund (1516x20–1583). Oxford Dictionary of National Biography Online. 2008. odnb.com **Comrie JD.** History of Scottish Medicine to 1860. London: Bailliere, Tindall, & Cox. 1927. electricscotland.com **Conti C.** To the Nobility and Gentry. Dublin Journal. May 5, 1772. p. 4. **Conti C.** Dr. De Conty, Oculist. Newcastle Chronicle April 6, 1776. Vol. VI. No. 628. p. 2. **Conti C.** The celebrated Dr. De Conty, Oculist. Norfolk Chronicle, July 19, 1777. p. 2. **Cook G.** Mr. George Cook, Surgeon at Moshall. Caledonian Mercury. Feb. 16, 1736. No. 2476. p. 3. **Cooke MA.** Richard Surfleet, translator and practitioner in physic. Med Hist. 1981 Jan;25(1):41-56. **Cooper T,** Du Toit A. Smith, Alexander (1684–1766). Oxford Dictionary of National Biography Online. 2004. **Cope Z.** William Cheselden 1688-1752. Edinburgh: Livingstone 1953. **Cornelius S.** Sarah Cornelius de Heusde, Widdow of Dr. Sasbout. British Library Collection of 185 Advertisements (shelfmark C112f9[61]). c. 1670. **Cottier.** Dr. Cottier, Physician and Oculist. Bury and Norwich Post. April 25, 1792. No. 512. p. 3. **Cowper W.** The anatomy of humane bodies with figures drawn after the life by some of the best masters in Europe and curiously engraven in one hundred and fourteen copper plates. Oxford: Smith, 1698: np. **Cox T.** Magna Britannia antiqua & nova: or, A new, exact, and comprehensive survey of the ancient and present state of Great-Britain. Vol. IV. London, Ward and Chandler, 1738: 324. **Craven JB.** History of the Church in Orkney: The Restoration to the Revolution 1662-1688. (Vol. 3) Kirkwall: William Peace, 1893: 116-7. **Crawcour S.** Samuel Crawcour, Dentist, Occulist, and Operator Upon Corns. Oxford Journal. June 25, 1791. Number 1991. p. 3. **Crosse W.** A brief treatise of the eyes. London: Morphew, 1708: 63. **Crowley P.** Early Doctors and Apothecaries (Chemists), Cork City and

County. March 3, 2019. Academia.edu **Cruciani** GF. Cerusici e Fisici: Preciani e Nursini dal XIV al XVIII secolo. *Storia e Antologia*. Arrone: Thyrsus, 1999, p. 194. **Cunison** A. Unto the Right Honourable, the Lords of Council and Session, the petition of Archibald Cunison merchant and late baillie of Hamilton, and James Cunison writer in Hamilton. Edinburgh, 1762: 54-5. **Daniell** FHB (ed.). Calendar of State Papers, Domestic series, January 1st to December 31st, 1682. Vol. 23. London: His Majesty's Stationer Office, 1932. **Davidson** F. Lithotomists, cataract-curers, and hernia-carvers: The Surgical School of Preci. *J Med Biogr*. 2016;24(4):440-452. **Deane** F. Mrs. Deane, Oculist. *Country Journal or The Craftsman* (London), March 3, 1739; Issue 660: 3. **Deane** F. Frances Deane, Occulist. *London Evening Post*. London. June 26, 1740. P. 4. **Deane** F. A poem, inscribed and dedicated to Mrs. Deane, Oculist. *Daily Advertiser* (London, England), Saturday, January 21, 1744; Issue 4060: 5. **De Bello** L. Signior Bellot's success. *Manchester Mercury* July 8, 1766. No. 792. p. 4. **De Bello** L. Mr. Bello, Oculist. *Newcastle Chronicle*. August 1, 1772. Vol. V, No. 433. P. 2. **De Bello** L. Mr. De Bello Oculist. *Newcastle Courant*. July 17, 1773. No. 5052. P. 1. **De Bello** L. Mr. De Bello Oculist. No. 8288. *Caledonian Mercury* December 17, 1774. **De Bello** L. Arrived from Edinburgh, Mr. De Bello, Occulist. *Belfast Newsletter*. March 5-8, 1776. Number 4026. p. 2. **De Bello**. I applied to Mr. De Bello, Occulist. *Belfast Newsletter*. March 12-15, 1776. Number 4028. p. 2. **De Bello** L. Mr. Lewis De Bello, Oculist. *Newcastle Courant*. December 29, 1798. No. 6377. p. 3. **Degravers** P. A complete physico-medical and chirurgical treatise on the human eye. The second edition. Edinburgh: Degravers, 1788. **Degravers** P. A complete physico-medical and chirurgical treatise on the human eye: and a demonstration of natural vision. By Peter Degravers, M. D. Professor of Anatomy and Physiology. Translated from the French. London: Law 1780. **Devereux** J. 'Shepherd, Luke (fl. 1548)', *Oxford Dictionary of National Biography*, Oxford University Press, 2004. pp. 26-132. **Devereux** J. An Edition of Luke Shepherd's Satires. 2001. Tempe, Arizona. Renaissance English Text Society. 2001. Pp. ix-49. **Dickson** T (ed.). Accounts of the Lord High Treasurer of Scotland: Vol. I. A.D. 1473-1498. Edinburgh. H.M. General Register House. 1877. **Dingwall** HM. 'To be Insert in the Mercury': Medical Practitioners and the Press in Eighteenth-Century Edinburgh. *Social History of Medicine*. 2000;13(1): 23-44. **Dingwall** HM. Illness, Disease, and Pain. In: Foyster E (ed.). *History of Everyday Life in Scotland, 1600 to 1800*. Edinburgh: Edinburgh University Press, 2010: 118. **Dingwall** HM. The emergence of an elite craft: the incorporation of surgeons of Edinburgh, 1505-c. 1680. In: Goodare J, MacDonald AA, Lynch M (eds.) *Sixteenth-Century Scotland: Essays in Honour of Michael Lynch*. Boston: Brill, 2008: 189-209. **Dingwall** HM. Physicians, surgeons and apothecaries : medicine in seventeenth-century Edinburgh. East Linton, East Lothian, Scotland: Tuckwell Press, 1995: 88. **Dingwall** HM. Lowe, Peter (c. 1550–1610). *Oxford Dictionary of National Biography* online. 2004. Oxforddnb.com **Dohlman** CH. Guillaume Pellier du Quengsy. In: Mannis MJ, Mannis AA. *Corneal Transplantation: A History in Profiles*. Second Edition. Amsterdam: Wayenborgh, 2018: 53-64. **Dolins** D. Letter from Daniel Dolins to John Strype. October 11, 1714. Baumgartner Papers. Letter 117. Cambridge University Library. **Dolins** D. Letter from Daniel Dolins to John Strype. October 15, 1714. Baumgartner Papers, letter 124. Cambridge University Library. **Dolins** D. Letter from Daniel Dolins to John Strype. May 1715. Baumgartner Papers, letter 141. Cambridge University Library. **Dove** G. Mr. George Dove, oculist in Sunderland. *Newcastle Chronicle*. December 15, 1764. Vol. I, No 39. p. 2. **Drage** W. A physical nosonomy, or, A new and true description of the law of God (called nature) in the body of man confuting by many and undeniable experiences of many men, the rules and methods concerning sicknesses or changes in mans body. London: Dover, for the author, 1664: 219-22. **Du Bartas** GS, James I (trans.) *His Maiesties poetick exercises at vacant hours*. Edinburgh: Robert Walde-graue. 1591. np. **Duddell** B. A treatise of the diseases of the horny-coat of the eye, and the various kinds of cataracts...By Benedict Duddell, Surgeon and Oculist. London: Clark, 1729: 174-6. **Duncan** A. Memorials of the Faculty of Physicians and Surgeons of Glasgow, 1599-1850: With a Sketch of the Rise and Progress of the Glasgow Medical School and of the Medical Profession in the West of Scotland. Maclehose: Glasgow Medical School, 1896: 244. **Dundas** H, Miller PA. Answers for Mr.

Philip Miller, oculist in Edinburgh, and for Mary Trememondo-Angelo-Tremamondo, Master of the academy in Edinburgh. Edinburgh: 1771: 1-11. **Dunn J.** Dr. Dunn, Occulist. Leeds Intelligencer. May 20, 1799. vol. XLVII. no. 2315. P. 4. **Dupont-Barron R.** L'ophtalmologie en Franche-Comte au XVIIIe Siecle. In: L'ophtalmologie des origine a nos jours. Vol. 2. Annonay, France: Faure. 1979. **Du Rieu WN.** Album studiosorum Academiae Lugduno Batavae MDLXXV-MDCCCIXXV. Hagae, Comitum apud Martinum Nijhoff, 1875. pp. 34-35. **Eames J,** Martin J. The philosophical transactions (from the year 1719, to the year 1733). Vol. 7. London: Brotherton, 1734: 488. **Earle, J.:** An Account of a New Method of Operation for the Removal of the Opacity in the Eye, Called Cataract, London, Wilks & Taylor, 1801. **Ebsworth JW.** The Korburch Ballads. Illustrating the Last Years of the Stuarts. Vol. VIII. Hertford: Austin for the Ballad Society. 1897: 822. **Eickhoff CH.** The German Doctor and Oculist Eickhoff. Northampton Mercury July 23, 1770. Vol. LI. No. XIX. p. 3. **Eickhoff CH.** The famous Doctor and Oculist Eickhoff. Reading Mercury. April 6, 1772. No. 534. p. 2. **Eickhoff CH.** Just Arrived here, from Guelderland. C.H. Eickhoff, Doctor, Surgeon, and Oculist. Leeds Intelligencer Dec. 15, 1794. vol. XLII. no. 2100. p. 3. **Elliott R.** Will of Richard Elliott, Oculist of Saint George Bloomsbury, Middlesex. The National Archives - Prerogative Court of Canterbury. discovery.nationalarchives.gov.uk **Elliot W.** William Elliot, Surgeon & Eye-Doctor from London. Boston Gazette Jul 06, 1767. Issue: 640: 4. **Elliot W.** Boston Goal. Boston News-Letter. Dec 17, 1767. Issue 3350: 4. **Elmy.** Mr. Elmy Operator. The Loyal Protestant, and True Domestick Intelligence (London), June 1, 1682, Issue 162: 2. **Evelyn J,** Bray W. Diary and correspondence of John Evelyn. London: Routledge 1900: 245. **Everitt G.** Doctors and doctors; some curious chapters in medical history and quackery. London: Sonnenschein, 1888: 252-3. **Fairclough G.** Post Man and the Historical Account (London), June 3-5, 1701; Issue 844: 2. **Fairclough G.** Post Man and the Historical Account (London), Sept. 18, 1701; Issue 876: 2. **Fairclough G.** Post Man and the Historical Account (London), February 19 - 21, 1702; Issue 934: 2. **Farland.** "Mr. Farland, Surgeon and Oculist". Cumberland Pacquet, and Ware's Whitehaven Advertiser March 10, 1790. p. 3. **Farroe D.** The Royal Golden Instructor for Youth ... in order to furnish them with a compleat knowledge of their mother language. Bristol. 1775. **Ferguson J,** Young J. Bibliotheca chemica: a catalogue of the alchemical, chemical and pharmaceutical books in the collection of the late James Young of Kelly and Durris. Glasgow: Royal College of Science and Technology. Vol. 2. 1906: 360. **Fessler A.** A medical contract from the eighteenth century. Br Medical J 1950;2(4688): 1112-3. **Ford E.** An account of a method of Curing the Hydropthalmia, by means of a Seton. By Mr. Edward Ford, Surgeon, Read Feb. 10, 1784. In: Medical Communications. Volume The First. London: Johnson. 1784: 409-15. **Foster J.** Alumni Oxonienses: the members of the University of Oxford, 1500-1714... Vol. IV—Early Series. Oxford: Parker, 1891: 1517. **Fountaines.** Mounsieur des Fountaines, the famous Oculist. Flying Post or The Post Master (London, England), August 5 - 7, 1714; Issue 3525: 2. **Fountaines.** Monsieur Des Fontaines. Post Boy. (London), January 15 - 17, 1717; Issue 4286. p. 2. **Frazer W.** On Certain Papers Relating to Lady Bellasyse, and the Private History of James II. When Duke of York. Proceedings of the Royal Irish Academy. Vol. 2 (1879 - 1888), pp. 56-58. **Freeman P.** The archaeology of Roman material in Ireland. Bulletin of the History of Medicine. 1995; 37(3): 69-74. **French R.** Surgery and Scrophula. In: Lawrence C. (ed.). Medical theory, surgical practice: studies in the history of surgery. London: Routledge, 1992: 85-100. **Garnier M.** The London monthly mercury; or, Foreign literary intelligencer. London. Vol. 1. 1753: 115. **Garrard T,** Tovey SG. Edward Colston, the philanthropist, his life and times; including a Memoir of his father; the result of a laborious investigation into the archives of the city. Bristol, J. Chilcott, 1852. **Gataker T.** An Account of the Structure of the Eye...Delivered in Lectures at the Theatre of Surgeons-Hall. Surgeon-Extraordinary to her Royal Highness the Princess of Wales, and Surgeon to St. George's-Hospital. London: Dodesly, 1761: 73. **Gatlee R.** At the Sign of the Occulist in St. Johns-lane, liveth Dr. Gatlee, Occulist. The Post-Man and the Historical Account (London, England), March 25, 1703, Issue 1108. p. 2. **Gerard L.** Monsieur Girard, Oculist. London Gazette. June 5-9, 1701. 3712: 2. **Gerardts G.** Gonsale Gerardts, A Dutch Doctor. British Library Collection

of 185 Advertisements (shelfmark C112f9[63]). London. c. 1695. **Gerardts** G. Nothing without God. These are to give notice unto all persons, that this most renowned and approved Dutch doctor in many nations, was born in that great and famous city and University of Leyden in Holland is now come to this famous city of London. London: 1695?. **Gilson** A. A group of Roman surgical and medical instruments from Corbridge. Saalburg Jahrbuch. 1981; 37:5-9. **Gilson** A. A group of Roman surgical and medical instruments from Cramond, Scotland. Medizinhistorisches J. 1983; 18:384-93. **Goergslenner** CA. The famous Saxon Doctor and Oculist C. A. Goergslenner. Public Ledger (London, England), Wednesday, September 4, 1765; Vol. VI. Issue 1768: 3. **Goergslenner** CA. the famous Saxon Doctor and Oculist, Goergslenner. Derby Mercury Vol. XXXIII. No. 1966. December 22, 1769. p. 1. **Goergslenner** CA. The Saxon Doctor and Oculist, Goergslenner. vol. XXXVII, No. 1774. June 1, 1772. p. 3. **Goergslenner** CA. Doctor and Oculist Goergslenner. Bath Chronicle and Weekly Gazette. September 25, 1783. No. 1196. p. 2. **Goergslenner** CA. Goergslenner, Doctor and Oculist. Saunders's News-Letter. Dublin. August 3, 1793. No 11297. p. 2. **Goergslenner** CA. Dr. Goergslenner and Oculist. Dublin Evening Post. February 13, 1794. No. 4853. p. 1. **Goldwyer**. Mr. Goldwyer, Oculist, late of this Town. Reading Mercury. March 4, 1771. No. 477. p. 3. **Goldwyer**. Mr. Goldwyer, Surgeon and Oculist. July 11, 1772. No. 1002. p. 3. **Goldwyer** H. To be sold. Reading Mercury. June 24, 1776. No. 754. p. 2. **Goldwyer** H. Mr. Goldwyer, late of Reading, is now removed to Marlborough. Oxford Journal. July 5, 1776. No. 1210. p. 1. **Goldwyer J. John Goldwyre**. Surgeon, Oculist, and Man-Midwife. Salisbury and Winchester Journal. July 10, 1769. Vol XXXIV, No. 1624. p. 2. **Goldwyer** J. J. Goldwyer, Surgeon and Oculist. Salisbury and Winchester Journal. October 12, 1772. Vol. XXXVII, no. 1793. p. 1. **Goldwyer** J. Mr. Goldwyer, Surgeon and Oculist. Hampshire Chronicle. March 25, 1782. Vol. X. p. 2. **Goldwyer** WH. Mr. W. Goldwyer, Surgeon. Reading Mercury. July 27, 1795. Vol. XXXIV. No. 1749, p. 1. **Gottfried** RS. Doctors and Medicine in Medieval England: 1340-1530. Princeton: Princeton University Press. 1986. **Graham** J. Arrived in town from North America Dr. Graham, the celebrated Oculist and Aurist. Daily Advertiser (London, England), Friday, February 11, 1774; Issue 13461: 1. **Graham** J. An address to the inhabitants of Great Britain...By James Graham, M. D. Oculist and Aurist, late of those Cities. London: Scott, 1775: 1. **Grant** PL. Memorial for Peter Leslie-Grant, eldest son of Captain John Grant, late of Ballindalloch. Edinburgh, 1760: 38. **Grant** R. Mr. Grant, an Approved and Sworn Oculist. Post Man and the Historical Account (London), April 9-11, 1706; Issue 1598. p. 2. **Grant** R. I Elizabeth Wild...having lost the Sight. English Post with News Foreign and Domestick (London, England), March 18-21, 1709; Issue 1321: 2. **Grant** R. Mr. Grant Oculist...Wm Jones, Aged 20 Years...who was Born blind. Daily Courant (London, England), Friday, July 29, 1709; Issue 2422: 2. **Grant** R. Mr. Roger Grant, Oculist. British Apollo (London), August 3 - 5, 1709; Issue 38: 4. **Grant** R. Mary Dearing, Aged 75 Years. British Apollo (London), August 19 - 24, 1709; Issue 43: 4. **Grant** R. Mr. Roger Grant was Sworn...Oculist and Operator for the Eyes in Extraordinary to Her Majesty. Post Man and the Historical Account (London), September 26 - 28, 1710; Issue 1920: 2. **Grant** R. Eliz. Cole...aged 38, born blind. Post Man and the Historical Account (London), April 3-5, 1711; Issue 1993: 2. **Grant** R. Post Man and the Historical Account (London), January 19-22, 1712. Issue 2088. **Grant** R. I Daniel Knell...my Wife was for some time Blind by Cataracts. Post Man and the Historical Account (London). January 15-17, 1713. Issue 2460: 2. **Grant** R. Mr. Grant, Her Majesty's Oculist in Extraordinary. Post Boy (London). May 9-12, 1713. Issue 2809: 4. **Grant** R. Mr. Grant, Her Majesty's Oculist Extraordinary. Post Boy (London). June 4-6, 1713. Issue 2820: 2. **Grant** R. I, Samuel Bolton, Chirurgeon. Post Boy (London). May 8-11, 1714. Issue 2965: 2. **Grant** R. I John Jessup...in the County of Suffolk, Yeoman. Post Man and the Historical Account (London). September 2-4, 1714. Issue 11050: 2. **Grant** R. Mr. Grant, Oculist and Operator for the Eyes. February 3-5, 1715. Issue 11050: 2. **Grant** R. Whereas many Persons blind by Cataracts despair of Cure by couching. Flying Post of the Post Master (London). May 3-5, 1715. Issue 3640: 2. **Grant** R. Yesterday Roger Grant, Esq; was sworn Oculist in Ordinary to His Majesty. Flying Post or The Post Master (London). June 23-25, 1715. Issue 3662: 2. **Grant** R. I Mary Forder. Post Man and the

Historical Account (London). August 4-6, 1715. Issue 11150: 2. **Grant R.** I John Smyth, who was Footman to King Charles I. Post Man and The Historical Account (London). October 30-November 1, 1718: 2. **Grant R.** Cures perform'd on the Blind in the County of Northampton. Daily Journal (London). October 11, 1721; Issue CCXXV: 2. **Grant R.** Roger Grant, Esq; his Majesty's Oculist. Weekly Journal or Saturday's Post (London, England), December 21, 1723; Issue 269: 7. **Grant R.** Whereas I John Miller. Post Man and the Historical Account (London, England), January 2-4, 1707; Issue 1719. p. 2. **Grant W.** These are to certify...by Mr. William Grant. London Journal (London), April 4, 1724; Issue CCXLV. p. 6. **Grant W.** Mr. Grant, the eminent Oculist. Caledonian Mercury. August 9, 1733. No. 2082. p. 2. **Grant W.** Dr. Grant the Oculist. Derby Mercury. May 31, 1754. Vol. XXIII. No. 11. p. 4. **Grant W.** Will of William Grant, Oculist of Reading, Berkshire. Prerogative Court of Canterbury and related Probate Jurisdictions: Will Registers. December 2, 1769. PROB 11/953/74. discovery.nationalarchives.gov.uk **Grapheus B.** Eldredge LM (ed.). The wonderful art of the eye: a critical edition of the Middle English translation of his *De probatissima arte oculorum*. East Lansing: Michigan State University Press, 1996. **Grapheus B.** Miranda-Garcia A, Gonzalez Fernandez-Corugedo S. *Benvenutus Grassus' On the well-proven art of the eye: Practica oculorum & De probatissima arte oculorum*. Synoptic Edition and Philological Studies. New York: Peter Lang. 2011. **Grassi B.** *De oculis eorumque aegritudinibus et curis*. Severinus Ferrariensis. 1474. np. gallica.bnf.fr **Green.** Dr. Green, Physician and Oculist, from London. Hampshire Chronicle January 27, 1777. Vol. V. No. 232. p. 3. **Green E.** Baptism of William Greene at Doncaster, August 13, 1700. Record Transcription: Yorkshire Baptisms. Findmypast.com. **Green E.** Burial of William Greene at Doncaster, November 1701. Record Transcription: Yorkshire Burials. **Green E.** Baptism of William Greene at Doncaster, September 22, 1709. Record Transcription: Yorkshire Baptisms. Findmypast.com **Green E.** Dr. Green of Doncaster, the North Oculist, having left off his Public Business of keeping stages. Post Man and the Historical Account. London. July 20-22, 1710; Issue 1892, p. 2. **Green E.** Baptism of Ann Green at Doncaster, May 8, 1738. Record Transcription: Yorkshire Baptisms. Findmypast.com **Green E.** Trade card: Dr. Edward Green, Scotland. 1951-685/35. Science Museum Group Collection Online. c. 1730s. collection.sciencemuseumgroup.org.uk/objects/co8002738 **Green E.** Dr. Edward Green is lately come to this country. Caledonian Mercury December 12, 1734, page 4 of 4. **Green E.** Dr. Edward Green from Doncaster, Yorkshire, practitioner in physick, surgeon, and oculist. The Belfast Newsletter. October 3, 1760. p. 3. **Green E III.** Dr. Edward Green, Surgeon and Oculist. Newcastle Courant. March 25, 1758. No. 4253. p. 2. **Green E III.** Aberdeen Press and Journal October 9, 1759. No. 613. p. 4. **Green MAE** (ed.). Calendar of State Papers, Domestic Series, of the Reign of Charles II, 1664-1665. vol. 4. London: Longman, 1863: 302-303. **Green MAE** (ed.). Calendar of State Papers, Domestic series, of the reign of Charles II, 1667. Vol. 7. London: Longmans. 1866: 431. **Green MAE** (ed.). Calendar of State Papers, Domestic Series, November 1667 to September 1668. Vol. 8. London: Her Majesty's Stationery Office. 1893: 460-1. **Green W.** That eminent Oculist, Dr. Wm. Green. The Newcastle Weekly Courant from Newcastle upon Tyne. November 3, 1733. p. 3. Newspaper.com **Greene JC.** The Belfast Newsletter Index, 1737-1800. 2013. www.ucs.louisiana.edu/cgi-bin/belfst/ **Greengrass M.** Hartlib, Samuel (c. 1600–1662). Oxford Dictionary of National Biography. 2007. **Gruber JW.** Hunter, John (1728–1793). Oxford Dictionary of National Biography. 2010. **Guillemeau J.** *Traite des Maladies de l'Oeil, qui son ten nombre de cent trezie*. Paris: Masse. 1585: 80. **Guillemeau J.** *The Frenche chirurgerye, or all the manuelle operations of chirurgerye*. Dort: Canin 1598. np. **Gunter RT.** Early Science in Oxford. Vol. XI. Oxford Colleges and Their Men of Science. Oxford. Printed for the author. 1937: 111. **Gunter F.** We the following Subscribers. Daily Post (London, England), Monday, February 1, 1731; Issue 3548: 1. **Guthrie D.** The medical and scientific exploits of King James IV of Scotland. Br Med J. 1953;1(4821):1191-3. **Guthrie L.** The Lady Sedley's Receipt Book, 1686, and other Seventeenth-century Receipt Books. Proceedings of the Royal Society of Medicine. 1913; 6:150-70. **Halliday FE.** A Cornish Chronicle: the Carews of Antony from Armada to Civil War. Newton Abbot: David & Charles. 1967. **Hamilton D.** The healers: a

history of medicine in Scotland. Edinburgh: Canongate, 1981: 5,32. **Hamilton** HB. Historical record of the 14th (King's) Hussars from A. D. 1715 to A. D. 1900. London: Longman, 1901: 31. **Hamilton** WD. Calendar of State Papers, Domestic Series, of the Reign of Charles I. Addenda: March 1625 to January 1649. London: Longman. 1897: 690. **Hardy** WJ. Calendar of State Papers, Domestic Series, of the Reign of William and Mary, 1694-1695. London: Mackie. 1906: 404. **Harkness** DE. "Strange" Ideas and "English" Knowledge. Natural Science Exchange in Elizabethan London. In: Smith P, Findlen P (eds.). Merchants and Marvels Commerce, Science, and Art in Early Modern Europe. New York. 2002. pp. 137-160. **Harkness** DE. The Jewel house : Elizabethan London and the scientific revolution. New Haven. Yale University Press. 2007. np. **Harley** D. Bred up in the study of that faculty: Licensed physicians in north-west England. Medical History 1994; 38: 398-420. **Harness** R. Dr. Richard Harness, Oculist and Manual Operator. Post Man and the Historical Account (London), Sep. 18 - 20, 1705; Issue 1447. **Harris** W. Pharmacologia anti-empirica, or, A rational discourse of remedies both chymical and Galenical wherein chymistry is impartially represented. London: Chiswell, 1683: 319-324. **Hart** S. Mrs. Pleasant Beaumont, the most Antient and Experience'd Occulist of her Age. Post Boy. London. April 17, 1711. Issue 2485. p. 2. **Hartlib** S. The Hartlib Papers. Ephemerides 1655 Part 4, Hartlib. 1655. www.dhi.ac.uk/hartlib/ **Hayward** R. Phippy. A biography of Jonathan Wathen Phipps/Waller. Eye-Surgeon to King George III. Studley: Brewin, 2014. **Hazlitt** WC. A roll of honour; a calendar of the names of over 17,000 men and women who throughout the British Isles and in our early colonies have collected mss. and printed books from the XIVth to the XIXth century. London: Quaritch, 1908: 90. **Henning** A. The oculist Joseph Hillmer in Berlin 1748-1768. Fortschritte der Ophthalmologie: Zeitschrift der Deutschen Ophthalmologischen Gesellschaft. 1989; 86(2):176-80. **Henning** A. Augenärzte in Berlin zur Zeit Friedrichs II. und ihre Vorgänger. In: Donnert E (ed.) Europa in der Frühen Neuzeit. Festschrift für Günter Mühlpfordt. Vol. 7 (85). Cologne: Verlag, 2008: 347-86. **Herle** W. Letter of William Herle to Lord Burghley. BL Lansdowne MS 18 f. 18r - 19v. August 29, 1573. www.livesandletters.ac.uk/herle/letters/088.html **Hey** W. Practical observations in surgery: Illustrated with Cases and Plates. Philadelphia: Humphreys. 1805: 36. **Higgs** J. A Practical Essay on the Cure of Venereal, Scorbutic, Arthritic, Leprous, Scrophulous, and Cancerous Disorders: In a Method Entirely New. By Joseph Higgs, Surgeon in Birmingham. London: Baldwin, 1755: 38. **Hill** WH. A transcription of the first Minute Book of the Faculty (now Royal College) of Physicians and Surgeons of Glasgow, covering the period 1602-1688. 1860: 37-155. Glasgow. archive.org/details/MinuteBook1 **Hilmer**. The lately arrived celebrated Doctor and Professor Hilmer. Public Advertiser. London. Jan. 2, 1769. 10664: 4. **Hilmer**. Yesterday Professor Hilmer...by depressing, and extracting of the cataracts. Gazetteer and New Daily Advertiser. Feb. 10, 1769. Issue 12463: 2. **Hilmer**. Doctor and Professor Hilmer, Physician and Counsellor to his Prussian Majesty. Salisbury and Winchester Journal March 20, 1769. Number 1609. Vol. XXXIV. **Hilmer**. Mary Towson...gives Doctor Hilmer public thanks. Dublin Mercury. Saturday, June 10, 1769. 411: 1. **Hilmer** J. Yesterday arrived...Doctor and Professor Hilmer. Belfast Newsletter. September 12, 1769. Issue 3346. p. 2. **Hilmer** J. I William McQuillen...perfectly cured by Doctor Hillmer. Belfast Newsletter. September 19, 1769. Issue 3348. p. 2. **Hilton Price** FG. The Signs of the Old Houses in the Strand in the 17th & 18th Centuries. Middlesex & Hertfordshire Notes and Queries, London: Hardy and Page. vol. 2. 1896: 157. **Hippen** H. At the Crown and Golden-Ball on London-Bridge, where is a free entry, next door to London-Bridge Coffee-house near St. Magnus Church, liveth H. Hippen. London: c. 1700. **Hirschberg** J. The History of Ophthalmology: Renaissance of ophthalmology in the Eighteenth Century. Vol 3. Bonn: Wayenborgh, 1984: 358. **Hirschberg** J, Blodi FC. The History of Ophthalmology. Vol. 4. The Renaissance of Ophthalmology in the Eighteenth Century (Part Two). Bonn: Wayenborgh, 1984, p. 169. **Hobson** J. The Publications of the Surtees Society. Vol. LXV. Yorkshire Diaries and Autobiographies in the Seventeenth and Eighteenth Centuries. London: Spottiswoode: 1877. **Hodkinson** J. Marriage of Jon Hodkinson and Mary Miller. Record Transcription: England, Clandestine Marriages. Findmypast.com **Holden** W. Holden's triennial directory, 1799. London: Richardson, 1799: 47. **Holford-Strevens** LA. Carew, Sir

Richard, first baronet (1579/80–1643?), medical experimenter and educationist. Oxford Dictionary of National Biography. **Holme** E. A directory for the towns of Manchester and Salford, for the year 1788. Manchester: Radford, 1788: 41. **Hope** T. Ready to be publish'd, A New Treatise of the Diseases of the Eyes. Daily Post (London, England), Saturday, July 12, 1729; Issue 3061: 2. **Hope** T. An Account of a Remarkable Cure, Performed on the Eye of a Young Woman in Scotland, by Tho. Hope, MD Communicated from Dr. Mead. Philosophical Transactions of the Royal Society of London Series I. 1744;43:194-200. **Hope** T. The genuine household Goods and Effects of Thomas Hope, Esq, Doctor of Physick. Daily Advertiser (London). June 6 1745; Issue 4490: 3. **Hope** T. Extracts of two letters of Thomas Hope, MD to John Clephane, MDFRS concerning Monsieur Daviel's method of couching a cataract. Philosophical Transactions of the Royal Society of London. 1752 Dec 31(47):530-3.

Huisman F. Itinerant medical practitioners in the Dutch Republic. The case of Groningen. *Tractrix*, I. 1989:63-83. **Humble** JG, Hansell P. Westminster Hospital 1716-1966. London, Pitman Medical Pub. Co., 1966: 28-41. **Hunter** J, Allen E, Turk JL, Murley R (eds.). The Case Books of John Hunter FRS. Parthenon Publishing Group Inc. New York: 1993. **Hunt** T. Anglo-Norman Medicine. Vol. I. Roger Frugard's *Chirurgia*. The *Practica Brevis* of Platearius. Cambridge: Brewer. 1994: 187.

Hutton R. Digby, George, second earl of Bristol (1612–1677). Oxford Dictionary of National Biography. 2009. Accessed August 11, 2019. **Irish** BJ. The Disgusting Cardinal Thomas Wolsey. In: Irish BJ. *Emotion in the Tudor Court: Literature, History, and Early Modern Feeling*. Northwestern University Press; 2018: 35-36. **Irish** D. *Levamen infirmi: or, cordial counsel to the sick and diseased...* By D. Irish, practitioner in physick and surgery, now dwelling at Stoke, near Guilford in Surry...London: Walker, 1700: 19-27. **Irvine** S. Surgeons and apothecaries in Suffolk, 1750-1830: City slickers and country bumpkins—exploring medical myths (Doctoral dissertation, University of East Anglia). 2011. ueaeprints.uea.ac.uk/36355/1/2011IrvineSPhD.pdf **Irvine** WF. Marriage Licences Granted within the Archdeaconry of Chester in the Diocese of Chester. Vol. V. 1661-1667. Chester: The Record Society. 1912. **J.A.K.** The Muscovy operator. London. c. 1700. **Jack** SM. Wolsey, Thomas (1470/71–1530). Oxford Dictionary of National Biography Online. 2012. **Jackson**. Doctor Jackson, late an eminent Surgeon in the army. Chester Chronicle, May 29, 1775, No. 5. p. 3. **Jackson** DM. Bach, Handel, and the Chevalier Taylor. *Medical history*. 1968; 12(4):385-93.

Jackson R. A set of Roman medical instruments from Italy. *Britannia*. 1986; 17:119-67. **Jackson** R. 1990. Roman doctors and their instruments: recent research into ancient practice. *Journal of Roman Archaeology*. 3: 5-27. **Jackson** R. An ancient British medical kit from Stanway, Essex. *Lancet*. 1997; 350(9089):1471-3. **Jackson** R. Medicine and hygiene. In: Allason-Jones L. *Artefacts in Roman Britain: Their Purpose and Use*. New York: Cambridge University Press. 2011: 243-68. **Jackson** R. Toilet implement. finds.org.uk/database/artefacts/record/id/152324 **James** RR. Thomas Gataker. An eighteenth century English surgeon with ophthalmologic leanings. *Arch Ophthalmol* 1932; 7(2):171-9. **James** RR. Some early royal oculists. *Br J Ophthalmol* 1930; 14(1):23-6. **James** RR. The development of medical studies in Britain: ophthalmology. *Br J Ophthalmol*. 1947 Mar;31(3):179-86. **James** RR. Studies in the history of ophthalmology in England: prior to the year 1800. Cambridge: Cambridge University Press, 2013: 53-7. **James** RR, Sorsby A. Richard Banister: Additional facts in relation to the Father of British Ophthalmology. *The British journal of ophthalmology* 1934;18(3): 156-159. **Jenkinson** M. Will of Mathias Jenkinson, Surgeon of London. August 30, 1625. PROB 11/146/362. The National Archives, Kew. discovery.nationalarchives.gov.uk **Jericho** FW. Specimen Medico Chirurgicum Inaugurale. Sistens Modum Sectionis Oculi in Cataracta Instituendae, Variasque Circa Ophtalmotomiam Cautelas Cui Accedit Observatio Practica de Tumore Oculi Insolito. Trajecti ad Rhenum, Joannis Broedelet; 1767. **Jericho** FW. Frederick William Jericho, regular bred Physician, Surgeon, and Oculist Belfast Newsletter. March 20, 1772. No. 3612. p. 2. **Jericho** FW. Dr. Jericho begs Leave. Belfast Newsletter. March 27, 1772. No. 3614. p. 2. **Jericho** FW. Dr. Jericho continues to extract the Cataract with great Success. Belfast Newsletter. April 7, 1772. No. 3617. p. 2. **Jericho** FW. Catharacts in the Eyes. Frederick William Jericho, Occulist and regular bred Physician. Morning Post and Daily Advertiser. Oct 4, 1776. No. 1231. p. 1. **Jericho** FW.

As Dr, Jericho has referred himself to the Gentlemen of his Majesty's Caribee Islands. London Evening Post. May 1, 1777. No. 8600. p. 2. **Jericho** FW. To those afflicted with the Cataract. World (London), July 28, 1791; Issue 1427: 1. **Jericho** FW. Amsterdamsche courant, Volume 1. Aug. 6, 1796 (No. 94); Aug. 9, 1796 (No. 95); No. 94. Nov. 24, 1796 (No. 141). Books.google.com **Johnson** J. The medical register for the year 1783. London: Johnson, 1783: 168. **Johnson**. Run away from his Master. Johnn Dunn, Apprentice to Mr. Johnson, Oculist in Liverpool. Leeds Intelligencer Dec. 2, 1793. vol. XLI. No. 2048. p. 3. **Jones** GW. A relic of the golden age of quackery: What Read wrote. Bulletin of the History of Medicine. 1963;37:226. **Kaplan** BB. Turberville, Daubeney (1612–1696). Oxford Dictionary of National Biography. 2004. **Kassell** L. Medicine and magic in Elizabethan London Simon Forman - astrologer, alchemist, and physician. Oxford: Oxford Univ. Press, 2005: 85. Kassell L. Personal communication, 2019. **Kassell** L, Hawkins M, Ralley R, Young J, Edge J, Martin-Portugues JY, Kaoukji N (eds.), 'NOTE4017', 'NOTE5570', 'NOTE6019', 'NOTE6952', 'CASE7779', 'CASE11234', 'CASE54568', 'CASE54656', 'CASE60589', 'CASE69361', 'CASE72935', The casebooks of Simon Forman and Richard Napier, 1596–1634: a digital edition, MS Ashmole 229, f. 250r. casebooks.lib.cam.ac.uk **Katritzky** MA. Women, Medicine and Theatre, 1500-1750: Literary Mountebanks and Performing Quacks. Burlington, VT: Ashgate Publishing, 2007: 97. **Kelly** J. Health for sale: mountebanks, doctors, printers and the supply of medication in eighteenth-century Ireland. Proceedings of the Royal Irish Academy. 2008; 108C: 75-113. **Kennedy**. Mr. Kennedy...Surgeon and Apothecary. London Courant and Westminster Chronicle (London, England), Wednesday, October 4, 1780: 3. **Kennedy** P. Ophthalmographia; or, a treatise of the eye, in two parts. London, 1713: 87-94. **Kennedy** P. A supplement to Kennedy's Ophthalmographia; or, treatise of the eye... London: Cooper, 1739: 2. **Kay** R. The Diary of Richard Kay, 1716-51, of Balidinstone, Near Bury: A Lancashire Doctor. Manchester: Chetham Society, 1968. **Kealey** EJ. Medieval Medicus: A Social History of Anglo-Norman Medicine. Baltimore: Johns Hopkins University Press. 1981. **Keefe** TK. Warenne, Hamelin de, earl of Surrey [Earl Warenne] (d. 1202). Oxford English Dictionary online. 2004. **Kelsey** S. Rich, Robert, second earl of Warwick (1587–1658). Oxford Dictionary of National Biography. 2008. **Kelsey** S. Instrumenting the trial of Charles I. Historical Research. 2019; 92(255): 118-38. **Key** G A dissertation on the effects of mercury on human bodies, in the cure of the venereal disease. ... By George Key, surgeon. London: Osborne, 1747. **King**. Mrs. King of Gravesend. London Country Journal. June 9, 1733, No. 192. p. 3. **Kirkup** J. Pott, Percivall (1714–1788). Oxford Dictionary of National Biography. 2004. **Kirkup** J. Sharp, Samuel (bap. 1709, d. 1778). Oxford Dictionary of National Biography Online. 2008. **Knapp**. Dr. Knapp, Operator for Shoes and Boots, Dentist, Oculist, Chiropedist, and Phlebotomist. Ipswich Journal. June 16, 1798. No. 3418. p. 8. **Koch** H-R. Jacques Daviels Kampf um Anerkennung. (Annual Meeting of the Julius-Hirschberg-Gesellschaft in Köln, 2010). In Krogmann, Frank: Mitteilungen der Julius-Hirschberg-Gesellschaft zur Geschichte der Augenheilkunde. Würzburg: Königshausen & Neumann. 2014; 12: 117-175. **Koch** HR. 2000 Jahre Bonner Augenheilkunde: Zur Geschichte der Ophthalmologie in Bonn von den Römern bis zu Römer. Bonn, Germany: Koch Verlag; 2014:33–38. **Kornell** M. Cowper [Cooper], William (1666/7–1710). Oxford Dictionary of National Biography Online. Accessed August 30, 2019. **Krebs** C. Christ. Krebs, Occulist and Surgeon. Saunders's News-Letter September 25, 1776. No. 5879. p. 2. **Krebs** C. Mr. Krebs, Surgeon and Oculist. Saunders's News-Letter August 25, 1777. No. 6088. page 3. **Krebs** C. Christian Krebs, Surgeon & Oculist. Shrewsbury Chronicle. March 28, 1778. Vol. VII. No. 273. p. 3. **Krebs** C. Surgeon Krebs's Sale...Christopher Krebs, Surgeon and Oculist. Saunders's News-Letter. July 10, 1778. No. 6361. p. 3. **Krebs** C. Christian Krebs, Surgeon and Occulist. Hereford Journal March 1, 1787. Vol XVIII. No. 865. p. 2. **Krebs** C. Christian Krebs, Surgeon and Oculist, just arrived from the Continent. The Ipswich Journal. April 24, 1790. No. 3117. p. 2. **Krebs** J. Johunnes Krebs, surgeon and oculist. Chester Courant March 19, 1799. Vol. LXVII. No. 3444. P. 1. **Laing** D. Catalogue of the First Portion of the Extensive and Valuable Library of the late David Laing esq., LL.D....comprising an extraordinary collection of works by Scottish writers or relating to Scotland. [London] Dryden press, J. Davy and sons 1879, p. 206. **Lamert**, **Brodum** W.

Doctors Lamert and Brodum. Hampshire Chronicle (Winchester, Hampshire), November 5, 1787. Vol XIV. No. 789. P. 1. **Lamert**. Dr. Lamert, Oculist. Jackson's Oxford Journal August 18, 1792. No. 2051. p. 1. **Lamont** J, Kinloch GR (ed.). The diary of Mr. John Lamont of Newton. 1649-1671. Edinburgh, 1830: 158. **Lancaster**. Dr. Lancaster, Surgeon and Occulist. Belfast Newsletter. July 19-23, 1776. Issue 4065. p. 1. **Lane** J. 'Willughby, Percivall (1596–1685)', Oxford Dictionary of National Biography, Oxford University Press, 2004. **Lanfranco of Milan**, Hall J. A most excellent and learned vvoorke of chirurgerie, called Chirurgia parua Lanfranci Lanfranke of Mylayne his briefe...now first published in the Englyshe prynte by Iohn Halle chirurgien. London: Marshe. 1565. 46-47. **Langdon-Davies** J. Westminster Hospital; two centuries of voluntary service, 1719-1948. London: Murray, 1952, p. 263. **Langdon-Davies** J. Westminster Hospital; two centuries of voluntary service, 1719-1948. London: Murray. 1952: 263. **Latta** J. A practical system of surgery. By James Latta, ... Illustrated with cases on many of the subjects, and with copperplates. Vol. 2. Edinburgh: Mudie, 1793, p. 246-8). **Lauder** J. Historical Selections from the Manuscripts of Sir John Lauder of Fountainhall, one of the Senators of the College of Justice. Volume First, Historical Observations, 1680-1686. Edinburgh: Constable. 1837: 248. **Laurini** A. Andreas Laurini...a Profess'd Occulist. The Old Dublin Intelligence, Irish Journal, or, the Weekly Gazzette. May 17, 1731. Number 3634. P. 2. **Le Begg** H. Doctor Lebeg Oculist. City Mercury (London, England), Monday, June 11, 1694; Issue 116. p. 1. **Le Dran** HF, Gataker T (trans.). The Operations in Surgery of Mons. Le Dran...Translated by Thomas Gataker, Surgeon. With Remarks, Plates of the Operations and A Sett of Instruments, by William Cheselden, Esq. London: Hitch. 1749: 356. **Leader** RE. Reminiscences of Old Sheffield: Its Streets and Its People. 2nd ed. Sheffield: Leader. 1876: 108. **Lee** S, Ranby J. A proper reply to the Sergeant Surgeons' [i.e. J. Ranby and others'] defence of their conduct at Chelsea Hospital. London: Owen, 1754: 42. **Leech** RH. The Topography of Medieval and Early Modern Bristol: Property holdings in the early walled town and marsh suburb north of the Avon. Vol. 1, Bristol: Bristol Record Society 1997: 50. **Leffler** CT, Schwartz SG, Davenport B. Congenital cataract surgery during the early Enlightenment period and the Stepkins oculists. JAMA Ophthalmol. 2014; 132(7):883-4. **Leffler** CT, Schwartz SG, Grzybowski A, Braich PS. The first cataract surgeons in Anglo-America. Survey of ophthalmology. 2015 Jan 1;60(1):86-92. **Leffler** CT, Schwartz SG. A Family of Early English Oculists (1600-1751), With a Reappraisal of John Thomas Woolhouse (1664-1733/1734). Ophthalmol Eye Dis. 2017; 9:1179172117732042. **Leffler** CT, Wainsztein RD. The first cataract surgeons in Latin America: 1611-1830. Clin Ophthalmol 2016 Apr 15;10:679-94. **Leffler** CT. Glaucoma from 1700-1849. In: Leffler CT (ed.). The History of Glaucoma. Kugler and Wayenborgh: Amsterdam, 2020: 153-203. **Leffler** CT, Schwartz SG, Peterson E, Couser NL, Salman AR. The first cataract surgeons in the British Isles. American journal of ophthalmology. 2021 Oct 1;230:75-122. **Lewis** E. Messrs. Lewis and Co., Surgeons and Oculists. Chelmsford Chronicle. June 10, 1785. No. 742.page 3. **Lewis** E. Mr. Edward Lewis, Surgeon and Oculist. Newcastle Courant November 21, 1789. p. 1. **Life** P. Violante [Larini], Signor (fl. 1727–1728). Oxford Dictionary of National Biography. 2006. **Lignum**. Important Vegetable Discoveries by Dr. Lignum, Oculist and medical practitioner. Manchester Mercury January 8, 1788. No. 1908.page 4. **Livingstone** N. The Mistresses of Cliveden. London: Hutchinson. 2015. **Lloyd** JM. The Casebooks of William Hey F.R.S. (1736-1819): An Analysis of a Provincial Surgical and Midwifery Practice. Leeds: University of Leeds. 2005. **Lonsdale** RH. Eighteenth century women poets: an Oxford anthology. Oxford: Oxford University Press, 1990. p. 269. **Lowe** P. The whole course of chirurgerie wherein is briefly set downe the causes, signes, prognostications & curations of all sorts of tumors, wounds, vlcers, fractures, dislocations & all other diseases...Compiled by Peter Lowe...London: Purfoot, 1597. **Lowe** P. A discourse of the whole art of chyrurgerie. Wherein is exactly set downe the definition, causes, accidents, prognostications, and cures of all sorts of diseases. London: Purfoot, 1612. **Lower** R. An observation concerning a blemish in an horses eye, not hitherto discover'd by any author; which may be of great use in the choice of an horse those who are curious; made by Dr. Richard Lower at the Royal Society, January 23. 1667/8. Philosophical

Transactions of the Royal Society of London.;2(32):613-4. **Lucas J.** On Cataracts, by Mr. James Lucas, Surgeon to the Leeds Infirmary. Read April 28, 1783. In: Medical observations and inquiries. By a Society of physicians in London. Vol. 6. London: Johnston: 1784: 250-63. **Luijt J.** Personal communication. Janjaap Luijt. Agandau Onderzoek in het Archief. (Agandau Research Archive) Utrecht. 2014. www.agandau.nl **Luly W.** Wm. Luly Oculist. Post Man and the Historical Account (London, England), July 14, 1709 - July 16, 1709; Issue 1766. p. 2. **Lyons JB.** Sylvester O'Halloran, 1728-1807. Eighteenth-Century Ireland/Iris an dá chultúr. 1989 Jan 1:65-74. **Mackaile M.** Macis macerata: or, A short treatise, concerning the use of mace, in meat, or drink, and medicine. ...By Matthew Mackaile chyrurgo medicine. Aberdene: Forbes, 1677: np. **Mackenzie G.** The lives and characters of the most eminent vvriters of the Scots nation...By George Mackenzie, M. D. Fellow of the Royal College of Physicians in Edinburgh. Edinburgh: Watson, 1722: 32. **Mackenzie W,** Wharton Jones T. A practical treatise on the diseases of the eye ... Third edition. Longman. 1840: 712-18. **Madden RR.** The History of Irish Periodical Literature, from the End of the 17th to the Middle of the 19th Century. Vol. 2. London: Newby. 1867: 282. **Maris P.** Advertisement. It is well known that in this kingdom is living an experienc'd and able physitian Dr. Peter Maris, who by the blessing of God has in his travels through five kingdoms done severall miraculous cures here in London. London: s.n., c. 1700a **Maris P.** Advertisement. At the Crown and Golden-Ball, next door to Old King Charles's-Head, between great and little turn-stile, in High-Holbourn, liveth Doctor Peter Maris, an experienced and able physitian. London: s.n., c. 1700b. **Mason S.** Practical observations in physick. Birmingham: Warren, 1757: 30-2. **Matthews W.** The Complete Bristol Directory. Bristol: Matthews. 1799. Ancestry.com **Mayor JEB,** Scott RF. Admissions to the college of St. John the Evangelist in the University of Cambridge. Part III. July 1715-November 1767. Cambridge: University Press, 1903: 129. **Matthews LG.** Licensed Mountebanks in Britain. Journal of the History of Medicine and Allied Sciences, Vol. 19, No. 1 (January, 1964), pp. 30-45. **Mayerne T.** Theodori Mayerne Consiliarii & Medici Primarii Regis et Reginae Magnae Britannie, Praxis Medica: ad Exemplar Londiense 1690. Geneva: Tournes, 1692: 100. **McArdle G.** Signora Violante and Her Troupe of Dancers 1729-32. Eighteenth-Century Ireland/Iris an dá chultúr. 2005; 20:55-78. **McCarthy MR.** 1990. The Roman, Anglican and Medieval Site At Blackfriars Street. Carlisle: Cumberland and Westmorland Antiquarian and Archaeological Society Research Series 4. **McLean HA.** Some Aspects of Medical Life in Old Glasgow. Glasgow Med J. 1912 Sep; 78(3): 172–190. **McPherson JM.** Kirk's Care of the Poor: With Special Reference to the North-east of Scotland. Aberdeen: Avery. 1941, p. 132. **Mendyk S.** Carew, Richard (1555–1620). Oxford Dictionary of National Biography. 2004. **Middlefell D.** Demaine Middlefell Optician in London. Newcastle Courant September 23, 1738; No. 700. p. 3. **Mihles S.** The Elements of Surgery. In which are contained all the essential and necessary principles of the art. London: Knapton. 1746: 202. **Mihles S,** Reid A. The elements of surgery. In which are contained all the essential and necessary principles of the art. By Samuel Mihles, M.D. The second edition, altered and considerably augmented...By Alexander Reid, Assistant Surgeon to Chelsea Hospital. London: Horsfield, 1764, p. 217. **Millan J.** Millan's universal register, of court and city-offices. London: Millan, 1755, p. 65. **Miller.** Mr. Miller, a regular Oculist. Newcastle Courtant. Sep. 30, 1769. No. 4854. P. 3. **Miller PA.** Unto the Right Honourable the Lords of Council and Session, the petition of Mr. Anthony Philip Miller, oculist, now in Edinburgh, and Mary Angelo-Tremamondo, his spouse. Edinburgh 1771, p. 1. **Miller PA.** Mr. Miller, Oculist...cut out the said fragment of glass. Caledonian Mercury. May 15, 1771. No. 7666. p. 3. **Miller PA.** Mr. Miller, Surgeon and Oculist of Edinburgh. Leeds Intelligencer. Sep 13, 1774. Vol. XXI. NO. 1079. p. 3. **Milne JS.** Surgical Instruments in Greek and Roman Times (Oxford 1907, reprinted Chicago 1970). **Mohun.** Mrs. Mokun the Occulist. Post Man and the Historical Account (London), May 8-10, 1701; Issue 835: 2. **Molins J,** Payne JF. Anatomical and Practical Observations. St. Thomas's Hospital, 1674-1677. In: Acland TD, Pitts B (eds.) Saint Thomas's Hospital Reports. New Series. Vol. XXIII. London: Churchill, 1896: 1-40. **Molyneux T.** The Dissection of two Eyes with Cataracts, by Mr. Molyneux. In: Royal Society. Medical essays and

observations relating to the practice of physic and surgery: Abridg'd from the Philosophical Transactions. Vol. 2. London: Royal Society, 1745: 140-1. **Moon**. Mrs. Moon, Occulist. Post Boy (London), March 24-26, 1702. Issue 1070: 2. **Moore** N, Bevan M. Earle, Sir James (1755–1817). Oxford Dictionary of National Biography. **Moore** N, Bevan M. Freke, John (1688–1756). Oxford Dictionary of National Biography. 2004. **Moote** AL, Moote DC. The Great Plague: The Story of London's Most Deadly Year. Baltimore: Johns Hopkins University, 2006: 52. **Morgan** CN. Surgery and Surgeons in 18th-Century London. Annals of The Royal College of Surgeons of England. 1968;42(1):1-27. **Mounsey** C. Sight Correction: Vision and Blindness in Eighteenth-Century Britain. Charlottesville: University of Virginia Press. 2019: 95-104. **Mowat** CL. East Florida as a British Province. 1763-1784. University of California Press. Berkeley. 1943. **Mullini** R. "I Cornelius à Tilbourn": Hotchpotches, poisons, antidotes, and royal gifts. The career of a seventeenth-century London irregular physician. In: Chlorophyll Killers: Pozioni, veleni, narcotici tra letteratura noir e scienza. Fano: Aras. 2016: 119-48. **Munk** W. The Roll Of The Royal College Of Physicians Of London, Vol. I., 1518 To 1700. 1878. Pp. 63-64. **Munk** W. John Luke. Lives of the Fellows. munksroll.rcplondon.ac.uk **Newcome** H, Parkinson R (ed.). The Autobiography of Henry Newcome, M.A. Vol. II. Manchester: Chetham Society. 1852, 262. **Newman** AN. The Political Patronage of Frederick Lewis, Prince of Wales. The Historical Journal, Vol. 1, No. 1 (1958), pp. 68-75. **Newman** J. John Newman, a Legal and Approved Practitioner in Physick, and most expert in all Chyrurgical Operations. British Library Collection of 185 Advertisements, shelfmark C112f9[66]. London: 1680. **Newman** J. By his Majesties authority. These are to give notice unto all persons, that there is arrived in this place John Newman, a legal and approved practitioner in physick ... , [London : s.n. 1680]. **Nichols** JG. The Topographer and Genealogist, Volume 3. London: Nichols. 1858: 153-4. **Nichols** JG, Foxe J. Narratives of the days of the reformation: chiefly from the manuscripts of John Foxe the martyrologist. [Westminster]: Camden Society, 1859. P. 161. **No author listed**. Lambeth Palace Library Research Guide. Medical Licences Issued by the Archbishop of Canterbury 1535-1775. lambethpalacelibrary.org **No author listed**. Marriage of Willm Barnaby. 16 Nov 1568 - Peterborough, St John. Northamptonshire Record Office; Northampton, England; Parish Registers; Reference Numbers: 261p/46. Church of England Baptisms, Marriages and Burials, 1532-1812. Ancestry.com **No author listed**. Robert Hall. Married 1588. Worcester Diocese. England, Boyd's marriage indexes, 1538-1850 Findmypast.com **No author listed**. Baptism of Henrye Blackburne, son of James. October 18, 1573. Halifax, Yorkshire. England Births & Baptisms 1538-1975. findmypast.com **No author listed**. Baptism of Blackburne Henrye, son of Johnne. May 9, 1574. Halifax, Yorkshire. England, Births & Baptisms 1538-1975. Findmypast.com **No author listed**. Baptism of Nicholas Booden son of Willmi. March 5, 1576. Loughborough, All Saints Church. Record Office for Leicestershire, Leicester & Rutland. Archive reference: DE667/1. p. 67. findmypast.com **No author listed**. Marriage of Dorothy Nelson of York, Yorkshire to Henry Blackburn, 1594. York Archdiocese Marriage Licences. Boyd's marriage indexes, 1538-1850. Findmypast.com **No author listed**. Marriage of John Nelson of York to Agnes Blackbourne of Bishopsbourne, October 4, 1596. Kent, East Kent marriage index 1538-1754. Available from: findmypast.com **No author listed**. William Barnaby. Buried May 27, 1600. Peterborough St. John. Northamptonshire Burials Transcription. Findmypast.com **No author listed**. Certificate by the Mayor of Rye. September 7, 1610. Reference: RYE/47/79/2. East Sussex Record Office. discovery.nationalarchives.gov.uk **No author listed**. Will of Henry Blackborne, Oculist of Edgware, Middlesex. February 5, 1611. The National Archives. Prerogative Court of Canterbury and related Probate Jurisdictions. Wood Quire Numbers: 1 - 58. discovery.nationalarchives.gov.uk **No author listed**. John Earle. Buried October 9, 1617 at Uttoxeter, St Mary. Staffordshire burials Transcription. Findmypast.com **No author listed**. Burial of Nicholas Bowden. December 24, 1649. St. Giles Church. Reading. Berkshire Burial Index. Findmypast.com **No author listed** [Le Begg?]. There is lately come over from Egypt, an Occulist... Domestick Intelligence. London. Oct. 9, 1682. **No author listed**. May 26...Tuesday last...the same Day, Sir William Read, his Majesty's Oculist in Chief, died at Rochester. Post Boy

(London), May 24-26, **1715**; Issue 4028. **No author listed**. The Governours of St. Thomas's Hospital...Mr. Chiselden Surgeon. Weekly Packet (London). July 5-12, **1718**. Issue 314: 2. **No author listed**. Last Week died one Mrs. Jones. Weekly Journal or Saturday's Post (London, England), Saturday, July 16, **1720**; Issue 85. **No author listed**. Marriage of John Taylor to Ann King, January 25, **1723**. Ancestry.com. England, Select Marriages, 1538–1973. **No author listed**. Roger Grant...Oculist, died. Weekly Journal or British Gazetteer (London). April 18, **1724**: 10. **No author listed**. A Catalogue of the Libraries of Thomas Southerne, Esq...Dr. Roger Grant, late Oculist to his Majesty. Daily Journal (London). May 5, **1724**. Issue 1026: 2. **No author listed**. Baptism of John Taylor, June 21, **1724**. Ancestry.com. London, England, Church of England Baptisms, Marriages and Burials, 1538-1812. **No author listed**. Thomas March...Oculist. London Gazette. June 8, **1725**. 6380: 4. **No author listed**. Dr. Robert Smith. Daily Courant (London), April 18, **1732**; Issue 4999: 2. **No author listed**. As one Joseph Egerton...his Surname was Postlewait. Dublin Gazette. February 5-9, **1733**. No 693. p. 2. **No author listed**. The Famous German Oculist, who by a new Method of Couching cures those that are born blind. Universal Spectator and Weekly Journal (London). November 24, **1733**; Issue CCLXVIII: 3. **No author listed**. The historical Register, containing an impartial relation of all transactions, Foreign and Domestick...For the year 1735. London: Nevill **1735**: 13. **No author listed**. The historical register, containing an impartial relation of all transactions, Foreign and Domestick. Volume XXI. For the year 1736. London: Nevill, **1736**, p. 25. **No author listed**. Rex v Stephen BEAUMONT for drinking the Pretender's health on 10 June, 11 Geo II (1738): Middlesex sessions. UK National Archives. **1738**. Manuscript Number TS 11/424. **No author listed**. Dead. Mr. Le Fountain, an Oculist. Country Journal or The Craftsman (London), Saturday, June 24, **1738**; Issue 624: 3. **No author listed**. A Directory of Dublin for the Year **1738**: Compiled from the Most Authentic Sources. Dublin: Dublin Corporation Public Libraries. 2000: 54. **No author listed**. Common Sense or The Englishman's Journal (London, England), Saturday, January 13, **1739**; Issue 102. **No author listed**. This Day died the Rev. Mr. John Balvaird...a fine Oculist. Caledonian Merucry. November 4, **1740**. No. 3215. p. 3. **No author listed**. An account of the proceedings of the governors of St. George's hospital near Hyde-Park-Corner, from its first institution, October the nineteenth 1733. to the twenty-eighth of December 1743. St. George's Hospital (London, England). London **1744**. p. 3. **No author listed**. An account of the proceedings of the governors of St. George's hospital near Hyde-Park-Corner, from its first institution, October the nineteenth 1733. to the thirty-first of December 1746. St. George's Hospital (London, England). London. **1747**. p. 3. **No author listed**. The English registry, for the year of our Lord, 1749; Or A collection of English Lists. Dublin: Moore, MDCCXLIX. [1749]. p. 39. **No author listed**. Christian VII (1749-1808), King of Denmark. Royal Collection Trust. www.rct.uk/collection/403528/ **No author listed**. The English registry, for the year of our Lord, 1750; Or A collection on English lists. Dublin: Moore MDCCL. [1750]. p. 40. **No author listed**. The English registry, for the year of our Lord, 1752; or A Collection of English Lists. Dublin: Sar. and John Exshaw; **1752**: 50-51. **No author listed**. George-Frederick Handel...was seized with a Paralytick Disorder. London Daily Advertiser. London. August 7, **1752**. 449: 2. **No author listed**. Yesterday George-Frederick Handel, Esq; was couch'd by William Bromfield. General Advertiser. London. November 4, **1752**. 5622: 1. **No author listed**. Abstract of the Number of Patients...from the Infimrury of Aberdeen. Caledonian Mercury, November 12, **1754**. p. 3. **No author listed**. The English registry, for the year of our Lord, 1754; or a collection of English lists; ... fitted to be bound up with Watson's almanack. Dublin: Exshaw, **1754**. p. 49. **No author listed**. The court and city register. For the year 1754. Containing, I. Ryder's Almanack. II. New and Correct Lists of both Houses of Parliament.London: Barnes, **1754**: 81. **No author listed**. The English registry, for the year of our Lord, 1755; Or A collection of English lists. Dublin: Exshaw, **1755**. pp. 48-49. **No author listed**. The English registry, for the year of our Lord, 1757; or A Collection of English Lists. Dublin: Exshaw. [1757]. p. 51. **No author listed**. The English registry, for the year of our Lord, 1759; or A Collection of English Lists. Dublin: Exshaw [1759]. p. 51. **No author listed**. The English

registry, for the year of our Lord, 1760; or A Collection of English Lists. Dublin: Exshaw [1760]. p. 47. **No author listed.** A list of the Society for the encouragement of arts, manufactures and commerce. London, August 18, 1766. London: Society for the Encouragement of Arts. 1766, p. 83. **No author listed.** Journals of the Board of Trade and Plantations, Volume 12, January 1764 - December 1767. His Majesty's Stationery Office, London, 1936. pp. 334-6. www.british-history.ac.uk/jrnl-trade-plantations/vol12/pp334-336 **No author listed.** Last week died...Mr. William Grant. Bath Chronicle and Weekly Gazette May 18, 1769. vol. IX, No. 448. p. 4. **No author listed.** A list of the Society for the Encouragement of Arts, Manufactures and Commerce. London, Nov. 15, 1769. London: Adlard, 1769, p. 55. **No author listed.** The English registry, For the Year of our Lord, 1769. Dublin: Exshaw, 1769: 62. **No author listed.** Cork City 1770's. Notices, Reports & Directory. corkgen.org/publicgenealogy/cork/potpourri/corkancestors.com/1770sCorkcity.htm **No author listed.** Deaths. The Scots Magazine. 1770. Vol. XIV. Edinburgh. Sands. p. 214. **No author listed.** Jonathen Wathen, surgeon, being the first evidence, deposed. London Evening Post. April 13-16, 1771. Issue 6762. **No author listed.** A list of the Society for the encouragement of arts, manufactures, and commerce. London, January 23, 1772. London: Adlard, 1772, p. 61. **No author listed.** Doctor Bosanberg, an eminent High German Doctor, Oculist, Cupper, and Surgeon. Middlesex Journal or Universal Evening Post (London, England), July 14 - 16, 1772; Issue 514: 4. **No author listed.** Index to the Western Flying Post or Sherborne and Yeovil Mercury 1773. www.hyattfamily.co.uk/docs/Newspapers/Sherborne_and_Yeovil_Mercury/sym1773.txt **No author listed.** The new Birmingham directory, and gentleman and tradesman's Compleat Memorandum Book. Birmingham: Swinney, 1774, p. 69. **No author listed.** Mr. John Goldwyer. Salisbury and Winchester Journal. May 22, 1775. Vol. XL. No. 1928, p. 3. **No author listed.** Lawrence Pettit, Theft, grand larceny, 15th January 1777. Proceedings of the Old Bailey. London's Central Criminal Court. Oldbaileyonline.org **No author listed.** The Cumberland Chronicle, Sep-Oct 1777. www.pastpresented.info/cumbria/chron77so.htm **No author listed.** The medical register for the year 1780. London: Fielding, 1780, p. 49. **No author listed.** A new edition, corrected to the 30th of January, of The court and city register; or, gentleman's complete annual calendar, for the year 1780. London: 1780: 74. **No author listed.** The medical register for the year 1783. London: Fielding, 1783, p. 31. **No author listed.** Treble Almanack & Dublin Directory. 1783. p. 91. Findmypast.com **No author listed.** Friday last died Dr. Uytrecht, father of Dr. Uytrecht. Bury and Norwich Post. January 24, 1787. No. 238. p. 2. **No author listed.** Letter to Dr. Thomson dated 20th September. MS Cullen 376. University of Glasgow Library. c. 1789. special.lib.gla.ac.uk/manuscripts/ **No author listed.** Nov. 20, died, Mr. Thomas Moore, oculist. Public Advertiser (London), Friday, December 17, 1790; Issue 17612: 4. **No author listed.** Died... In Worcester, Dr. Green, oculist. Bath Chronicle and Weekly Gazette. February 24, 1791. vol. XXX. No. 1534. p. 2. **No author listed.** The Queen has been pleased to appoint...Mr. Frederick Bischoff to be Oculist. The Scots Magazine. Edinburgh. Vol. LIV. January 1, 1792. page 51. **No author listed.** Died...At Kilkenny, the wife of George Borthwick, Esq. M.D. Saunders's News-Letter. October 8, 1793. No. 11353. p. 2. **No author listed.** The new Jamaica almanack, and register, calculated to the meridian of the island for the year of our Lord 1795. Saint Jago de la Vega: Dickson 1795, p. 25. **No author listed.** Died...at his house...Dr. Gray, oculist. Manchester Mercury. October 13, 1795. No. 2303. P. 4. **No author listed.** Familieadvertenties met Friederich Wilhelm Jericho. 24-06-1800. www.wiewaswie.nl/nl/detail/40779963 **No author listed.** Plan of the Royal Infirmary for the Diseases of the Eye, Instituted 1804. London: Howlett, 1811. **No author listed.** Walpole's Secret Memoirs. The Atheneum. Vol. 11. Boston: Munroe: 1822. p. 223. **No author listed.** Professional Anecdotes: or Ana of Medical Literature in Three Volumes. Vol. 2. London: Knight, 1825: 116. **No author listed.** Deaths...In Kilkenny, aged 84 years, Dr. George Borthwick, formerly surgeon in the 14th Light Dragoons. Limerick Chronicle. Feb. 20, 1836. Vol. 70. No. 12153. p. 2. **No author listed.** A Catalogue of the Manuscripts Preserved in the Library of the University of Cambridge. Vol. V. Cambridge: Clay. 1867: 98-100. **No author listed.** Edward Moore Noble, surgeon and oculist.

Birmingham Daily Post. June 29, 1870. Vol. XVI, no. 3727, p. 6. **No author listed.** Album Studiosorum. Academiae Rheno-Traiectinae. MDCXXXVI-MDCCCLXXXVI. Accedunt Nomina Curatorum et Professorum. Per Eadem Secula. Ultraiecti. Apud J. L. Beijers et J. Van Boekhoven. (1886). **No author listed.** Album Promotorum, qui indie ab anno MDCXXXVIo usque ad annum MDCCCXVum in Academia Rheno-Traiectina gradum doctoratus adepti sunt, Societas cui nomen “Provinciaal Utrechtsch Genootschap van Kunsten en Wetenschappen” componendum edendumque curavit, atque Academiae Rheno-Traiectinae trecesimo die natali donum obtulit. Traiecti ad Rheum. In aedibus Broekhoffti Soc. Anon. (antea Keminkii et filii). (1936). **No author listed.** John of Gaddesden, contemporary of Chaucer. JAMA. 1963;186:67. **No author listed.** John Freke (1688-1756)—Surgeon and Man of London. JAMA. 1966;197(10):812-813. **No author listed.** Isaac Sasbout. University of Amsterdam. Amsterdam Centre for the Study of the Golden Age. vondel.humanities.uva.nl **No author listed.** Sara Cornelisdr. de Heusden. University of Amsterdam. Amsterdam Centre for the Study of the Golden Age. vondel.humanities.uva.nl **No author listed.** Sasbout Cornelisz. Souburgh. University of Amsterdam. Amsterdam Centre for the Study of the Golden Age. vondel.humanities.uva.nl/ecartico/persons/14707 **No author listed.** Jacob Sasbout Souburg. University of Amsterdam. Amsterdam Centre for the Study of the Golden Age. vondel.humanities.uva.nl **No author listed.** Counterpart lease for 99 years or 1 life in reversion, in trust. Reference: P/Xch/D/7(d). Held by Bristol Archives. discovery.nationalarchives.gov.uk **No author listed.** Detailed record for Harley 1585. Medical miscellany of a pharmacopeial compilation, including a herbal and bestiary illustrating the pharmacopeial properties of animals. www.bl.uk **No author listed.** Detailed record for Sloane 1975. Medical and herbal collection, including Pseudo-Apuleius, Herbarius; Pseudo-Dioscorides, De herbis femininis (ff. 49v-73); Sextus Placitus, De medicina ex animalibus. British Library. www.bl.uk **No author listed.** MS. Ashmole 1462. Medieval Manuscripts in Oxford Libraries. medieval.bodleian.ox.ac.uk **No author listed.** Oxford, Bodleian Library, Ashmole 1462, folio 10r. The Mackinney Collection of Medieval Medical Illustrations. dc.lib.unc.edu/cdm/ref/collection/mackinney **No author listed.** Catalogue of English Literary Manuscripts 1450-1700. The Rosenbach Museum & Library, numbers 1 through 239. www.celm-ms.org.uk/repositories/rosenbach-1.html **No author listed.** A Collection of 185 Advertisements, Chiefly Relating to Quack Medicines. The Greater Part English, the Rest French, German and Italian [1660–1716] (BL C112f9). **No author listed.** A Collection of 231 Advertisements, etc. The Greater Part English and Chiefly Relating to Quack Medicines, the Rest German Descriptions of Commemorative Coins and Medals [1675–1715] (BL 551a32). **Noble EM.** A Treatise on Ophthalmy. Birmingham: Classics of Ophthalmology Library. 1991: 135-7. **O'Halloran S.** A New Treatise on the Glaucoma, Or Cataract. Dublin: Powell, 1750. **O'Halloran S.** A critical analysis of the new operation for a cataract. By Mr. O'Halloran, of Limerick, Surgeon and Man-Midwife. Dublin: Printed by S. Powell, for the author, 1755: 33. **Orsi.** Dr. Orsi, Surgeon, Oculist and Dentist. Ipswich Journal. Nov. 2, 1776. No. 1978. p. 3. **Orsi.** Dr. Orsi, Surgeon and Oculist. Adams's Weekly Courant (Chester). January 27, 1778; Issue 2362: 3. **Osborne T.** A catalogue of thirty thousand volumes, (with the Prices printed) of Several libraries Just purchas'd; Particularly the Library of William Kynaston, Esq. London. 1749. p. 21. **Oxford** English Dictionary Online. “couch”, “flap”, “oculist”, “oculister”, “pocky”. Oxford English Dictionary Online. Available from: www.oed.com **Oxley C.** Papers of Charles Oxley, comprising casebook, 1725-1726, recording details of surgical cases at St Thomas's Hospital; notes on lithotomy and operations for cataracts. Kingscollection.org **Palermo.** Arrival in London of the famous Chevalier Palermo. Public Advertiser (London, England), Monday, Dec. 20, 1773; Issue 12063: 4. **Parsons FG.** The history of St. Thomas's Hospital. Volume 2. From 1600 to 1800. London: Methuen. 1932. **Pass S. S.** Pass, the Italian Doctor and Occulist. Aris's Birmingham Gazette August 29, 1791. Vol. L. No. 2598. p. 1. **Paterson J.** Edinburgh's true almanack, or A new prognostication for the year of our Lord, 1690. Edinburgh: Anderson, 1690: 8-9. **Paul JF** (ed.). Accounts of the Lord High Treasurer of Scotland: 1500-1504. Vol. II. A.D. 1500-1504. Edinburgh: Her Majesty's Treasury. 1900. **Paul JB** (ed.). Accounts of the

Lord High Treasurer of Scotland: Vol. IV. A.D. 1507-1513. Edinburgh: H.M. General Register House. 1902. Hathitrust.org **Peachey** GC. The history of St. George's hospital. London: Bale & Danielsson, 1910. pp. 195-268. **Pearn** J. Two medieval doctors: Gilbertus Anglicus (c1180–c1250) and John of Gaddesden (1280–1361). *J Medical Biography* 2013; 21(1): 3-7. **Pearson** D. Illustrations from the Wellcome Library. *Joseph Fenton and his Books. Medical history.* 2003; 47(2):239-48. **Pellier** JF. The Sieur Pellier, Privileged Doctor, Oculist to his Majesty, the King of Prussia. *Morning Herald and Daily Advertiser* (London), Tuesday, September 14, 1784; Issue 1212: 1. **Pellier** JF. We the undersigned Physicians and Surgeons, having seen M. Pellier operate on the Cataract. *General Evening Post* (London, England), November 25, 1784 - November 27, 1784; Issue 7917: 1. **Pellier** JF. The Sieur Pellier, Doctor, Oculist to his Majesty of Prussia. *Saunders's News-Letter.* December 2, 1784. No. 8645. p. 3. **Pellier** JF. The Sieur Pellier for disorders of the Eyes. *Aberdeen, 20th Arpil* 1785. *Caledonian Mercury* (Edinburgh). April 23, 1785. No. 9925. page 3. **Pellier** JF. Mr. Pellier, Oculist. *General Evening Post* (London), Sep. 6-8, 1785; Issue 8095: 3. **Pellier** JF. The Sieur Pellier for all Disorders of the Eyes. *Morning Post and Daily Advertiser* (London), Nov. 30, 1785; Issue 4003: 1. **Pellier** JF. For Disorders of the Eyes. *Mons. Pellier. Morning Chronicle and London Advertiser* (London), Feb. 1, 1786; Issue 5216: 1. **Pellier** JF. Dr. Pellier, Oculist. *Public Advertiser* (London) Apr. 17, 1786; Issue 16194: 2. **Pelling** M, White F. Medical conflicts in early modern London : patronage, physicians, and irregular practitioners, 1550-1640. Oxford: Clarendon Press, 2006. **Pelling** M, White F. 'BONSCIO, John', 'LUKE, John', 'SURFLET, Richard', 'BOWNE, Robert', in *Physicians and Irregular Medical Practitioners in London 1550-1640 Database* (London, 2004), British History Online british-history.ac.uk **Penfold** J. Colchester's Caring Past. Colchester Medical Society. colchesterscaringpast.weebly.com **Pepys** S. *Diary and Correspondence of Samuel Pepys, Esq., F.R.S. from his MS. Cypher in the Pepysian Library, with a Life and Notes by Richard Lord Braybrooke.* Vol. VIII. October 1, 1667-July 15, 1668. New York: Dodd, Mead & Company, 1887: 330-6. **Percival** J. *Manuscripts of the Earl of Egmont. Diary of the First Earl of Egmont (Viscount Percival).* Vol. II. 1734-1738. London: His Majesty's Stationery Office, 1923: 263. **Phillips**. The most celebrated Occulist, Chirurgion, and Physician...Dr. Phillips. *Derby Mercury.* December 9, 1736. 38: 4. **Phillips**. Dr. Phillips, from Leeds in Yorkshire, Occulist. *Newcastle Weekly Courant.* Newcastle upon Tyne. July 18, 1747. p. 3. **Ponteus** J. To all the noble and warlick nations of Great Brittain. London: s.n., 1656: 1-6. **Ponteus** J. The queens cabinet newly opened and the art of physick discovered; wherein you shall finde diverse rare receipts; both of physick and of chyrurgery...By Mr. John Ponteus. London: Burton, 1662: np. **Ponteus** J. The true every man & woman their own doctor: or, a salve for every sore Being a book full of rare receipts for the most **dangerous distempers incident to the bodies of men, women and children...gathered out of the** library of that famous traveller Dr. Ponteus. London: Drew, 1676: 1-3. **Pope** W. The life of the Right Reverend Father in God, Seth, Lord Bishop of Salisbury...Dr. Turberville, and others / written by Dr. Walter Pope. London: Keblewhite, 1697: 101-9. **Portal** WW. *Letters of Denization and Acts of Naturalization for Aliens in England and Ireland, 1603-1700.* Vol. XVIII. London: Huguenot Society. 1911: 291. **Porter** R. Graham, James (1745–1794). *Oxford Dictionary of National Biography.* 2017. **Pott** P. *Chirurgical observations relative to the cataract, the polypus of the nose, the cancer of the scrotum, the different kinds of ruptures, and the mortification of the toes and feet,* by Percivall Pott, F.R.S. London: Carnegy. 1775. **Powell** W, Bradney JA. *The diary of Walter Powell of Llantilio Crossenny in the county of Monmouth, gentleman: 1603-1654.* Bristol: John Wright. 1907: 45-6. **Power** DA, Bevan M. Ranby, John (1703–1773). *Oxford Dictionary of National Biography.* 2004. **Power** DA, Rice N. Saunders, John Cunningham (1773–1810). *Oxford Dictionary of National Biography.* 2008. **Power** DA, Ware, James (1756–1815). *Oxford Dictionary of National Biography.* 2008. **Power** DA, Bevan M. Warner, Joseph (1717–1801). *Oxford Dictionary of National Biography.* 2004. **Power** DA, McConnell A. Thomson, John (1765–1846). *Oxford Dictionary of National Biography.* 2004. **Primerose** J, Wittie R. *Popular errors: Or the errors of the people in physick, first written in Latine by the learned physitian James Primrose Doctor in*

Physick...Translated into English by Robert Wittie Doctor in Physick. London: Wilson, 1651, pp. 23-4. **Pye**. Pye's Birmingham Directory for 1797. London: Richardson. 1797. Ancestry.com **Raine J.** Depositions from the Castle of York: Relating to Offenses Committed in The Northern Counties in the Seventeenth Century. London: Blackwood. 1861: 124. **Rastas J.** "By my Lords comand, I am to acquainte you": An Edition of the Seventeenth-Century Correspondence of the Wentworth Family in the Folger Shakespeare Library. MA Thesis. University of Turku. 2016: 72-4. **Rastrick J.** A narrative; or an historical account of the most materiall passages in the life of John Rastrick. 2010; 38: 26-202. **Raynes C.** Celebrious Raynes, M.D. Oculist and Aurist. Public Advertiser (London, England), Tuesday, January 6, 1761; Issue 8166. Vol. XII. No. 632. p. 3. **Raynes C.** Celebrious Raynes, M.D. Oculist and Aurarist. Public Advertiser. March 6, 1761. No. 8217. p. 3. **Raynes C. Dr.** Raynes Oculist and Aurarist. Ipswich Journal. July 9, 1763. No. 1277. p. 3. **Raynes C.** Restor'd to their Hearing by Celebrious Raynes, M.D., Aurist, Oculist, and Professor in Midwifry. Derby Mercury. October 19, 1764. Vol. XXXIII. No. 33. p. 4. **Raynes C.** Celebrious Raynes, M.D. Aurist and Oculist. Bath Chronicle and Weekly Gazette. November 26, 1772. P. 3. **Raynes C. Dr.** Raynes...the first Oculist and Aurist in England. Bath Chronicle and Weekly Gazette April 15, 1784, vol. XXIV, no 1225. p. 3. **Read A.** The Lady Read in Durham Yard in the Strand, London. Weekly Journal or British Gazetteer (London), March 24, 1716. p. 2. **Read A.** The chirurgicall lectures of tumors and vlcers. Delivered on Tusedayes appointed for these exercises, and keeping of their courts in the Chirurgeans Hall these three yeeres last past, viz. 1632, 1633, and 1634. By Alexander Read Doctor of Physick, and one of the fellowes of the Physitians College of London. London: Haviland. 1635: 11-2. **Read A.** The manuall of the anatomy or dissection of the body of man containing the enumeration, and description of the parts of the same, which usually are shewed in the publike anatomicall exercises...By Alexander Read, Doctor of Physick, a fellow of the Physitians College of London, and a brother of the Worshipfull Company of the Barber-Chirurgeons. London: Constable, 1638: 441-2. **Read LS.** Violante [Larini], Signora (1682–1741). Oxford Dictionary of National Biography. 2006. **Read L.** The Lady Read in Durham Yard in the Strand, London. Weekly Journal or British Gazetteer (London, England), Saturday, March 24, 1716. p. 2. **Read W.** Read's true and faithful experiments, lovingly communicated for the good of his country men, being a catalogue of those medicaments he sold off his stages [London?], [1691?]. **Read W.** Mr. William Read, an experienced and approved Oculist... Post Man and the Historical Account (London), Sep. 24-26, 1696. Issue 216. p. 2. **Read W.** Mr. William Read...Couch two Cataracts on the Eyes of George Smith, about Nine years of Age. Post Man and the Historical Account (London), August 12-14, 1697; 357: 2. **Read W.** Mr. William Read, Oculist and Operator of the Eyes... Flying Post or The Post Master (London), May 26-28, 1698; 475: 2. **Read W.** The Honourable Sir Cecile Bishop Bart, of Partham in Sussex. Post Boy (London), Sep. 24 - 26, 1702; Issue 1150: 2. **Read W.** Mr. James Silvester...was restor'd to perfect sight in a Minute by Mr. William Read. Post Boy (London), Nov. 14 - 17, 1702; 1172: 2. **Read W.** Mrs. Payne...was couch'd by Mr. William Read, (the Approved Occulist" London Gazette. Dec. 17-21, 1702; 3872: 2. **Read W.** Whereas Mrs. Catherine and Alice Newson, Sisters...who were both born blind...London Gazette. Jan. 25 - 28, 1703; 3883: 2. **Read W.** "Mr. Edward Bean at Chatham...was Couch'd...by Mr. William Read. Post Boy (London). Feb. 9-11, 1703; 1208: 2. **Read W.** Mrs. Mary Beaming...was couch'd...by Dr. William Read. Daily Courant (London). May 31, 1703; Issue 349. p. 2. **Read W.** "Mr. John Blowes....was couch'd by the famous Occulist Dr. William Read. Post Man and the Historical Account (London). July 10-13, 1703; Issue 1157. p. 2. **Read W.** Mr. William Read, the Approved Oculist...has left his Brother. London Gazette (London, England), September 16-20, 1703; Issue 3950. p. 2. **Read W.** A Particular Account of some People lately couch'd...by Dr. William Read. Daily Courant (London), January 17, 1704; Issue 547. p. 2. **Read W.** Whereas Mr. Geo. Westland. Daily Courant (London), March 10, 1704; Issue 593: 2. **Read W.** Mrs. Souch...restor'd to their perfect Sight...by Dr. William Read. London Gazette. July 24 - 27, 1704; Issue 4039. p. 2. **Read W.** Whereas James and Mary Herbert. Daily Courant (London). Jan. 12, 1705; Issue 856. p. 2. **Read W.** Aqua Stiptica Celiberrima: Or the most famous Stiptick

Water, prepared by Dr. William Read, Her Majesty's Oculist. Daily Courant (London), March 26, 1705; Issue 918: 2. **Read W.** Dr. William Read, Her Majesty's Oculist, having had great Success in the City of Worcester. London Gazette. June 18 - 21, 1705; Issue 4133. p. 2. **Read W.** Her Majesty's Oculist, Dr. William Read..Glaucoma. Daily Courant. June 20, 1705; Issue 992. p. 2. **Read W.** Dr. William Read, Her Majesty's principal Oculist...Couch'd...The Wife of Mr. Tho. Willis." Daily Courant (London). July 5, 1705; Issue 1005. p. 2. **Read W.** Ephraim Prince of Derby. London Gazette. July 19 - 23, 1705; Issue 4142. p. 2. **Read W.** Sir William Read gets nothing by his Honour. Observator (London), Aug. 8-11, 1705; 38: 2. **Read W.** The following persons who were Blind of Cataracts. Post Man and the Historical Account (London). Oct. 9-11, 1705; 1452: 2. **Read W.** Sir William Read Kt. Her Majesty's only Oculist, and an approved Surgeon. London Gazette. Jan. 31 – Feb. 4, 1706; 4198: 2. **Read W.** Sir William has lately Couch'd and REstor'd to sight John Ward, of Her Majesty's Ship the Triumph. London Gazette. April 15-18, 1706; 4219: 2. **Read W.** Sir Wm. Read. Kt. Her Majesty's Oculist, has left his Brother. Post Boy, London, June 10- 12, 1707; 1884: 2. **Read W.** Sir William Read, Her Majesty's Oculist, ...has instructed the Lady Read to couch Cataracts. The Supplement (London, England), January 19-21, 1709; Issue 159. p. 2. **Read W.** Lately published for the Benefit of Families, A short but exact Account of all the Disases incident to the Eyes. London Tatler. Feb. 7, 1709. p. 2. **Read W.** John Younger of Cogs Hall in Essex, having been blind of a Cataract for 12 Years. Review of the State of the British Nation (London). Oct. 25, 1709; 87: 2. **Read W.** Anne Gimball...was blind of Cataracts from my Birth. Tatler (London). Nov. 10-12, 1709; 93: 2. **Read W.** A short but exact account of all the diseases incident to the eyes, with the causes, symptoms and cures. Also practical observations...London, [1709]. **Read W.** A Shoort but Exact Account of all the Diseases Incident to the Eyes. Post Man and the Historical Account (London), Jan. 5 - 7, 1710; 1840: 2. **Read W.** The Certificate given to Sir William Read by the Reverend Dr. Covell. Tatler (London), Jan. 19-21, 1710; 123: 2. **Read W.** The Certificate given to Sir William Read by the Vice-Chancellor of the University of Oxord. Tatler (London). January 24-26, 1710; 125: 2. **Read W.** Edward South...in Hertfordshire, was couch'd of a Catarack...by Sir William Read. Post Boy (London, England), May 24, 1711 - May 26, 1711; Issue 2502. p. 2. **Read W.** Sir William Read...has...instructed my Lady Read to couch Cataracts. Post Boy (London), April 26-29, 1712; Issue 2647. p. 2. **Read W.** Sir William Read...in the City of Norwich. Post Boy (1695) (London), October 14-16, 1712; Issue 2720. p. 2. **Read W.** Sir William Read is sworn Oculist in Ordinary to his Majesty King George. Weekly Packet (London), Jan. 8-15, 1715; Issue 132. p. 2. **Read W.** Sir William Read...has also couch'd Mrs. Ann Farley. Post Boy (London), Mar. 12-15, 1715; Issue 3097. p. 2. **Reeve R Jr.** Susan Ribbans, a pauper,...who had a cataract in each eye. Bury and Norwich Post. July 28, 1790. No. 421. p. 2. **Reidman R.** Handbill issued by Richard Reidman, physician, oculist and chirurgical operator. Univesity of Aberdeen. c. 1687. **Rhys J.** Celtic Folklore: Welsh and Manx. Volume 1. Oxford: Clarendon Press. 1901. **Rich,** Robert, Lord Rich (1611-1659), of Warwick House, Holborn, Mdx. and Leighs Priory, Essex; later of Rochford Hall, Essex. 2010. historyofparliamentonline.org **Rider C.** Rider's British Merlin: ... 1793. ... Compiled ... by Cardanus Rider. London: Company of Stationers, 1793: 101. **Rigault.** Mr. Rigault, Oculist. Evening Post (London). November 8-10, 1716. 1134: 3. **Risse GB.** Hospital Life in Enlightenment Scotland: Care and Teaching at the Royal Infirmary of Edinburgh. Cambridge: Cambridge University Press: 1986: 122-169. **Ring J.** Reflections on the surgeon's bill. London: Hookham, 1798, p. 79. **Robertson JC.** Materials for the history of Thomas Becket, Archbishop of Canterbury. Vol. 1. London: Longmans, 1875: 452. **Robertson MA,** Ellis G (eds.) The English Reports: Vol. LXXXVII. King's Bench Division, XVI. Edinburgh: William Green & Sons, 1908, p. 569. **Robinson J.** The Attwood Family: With Historic Notes & Pedigrees. Sunderland: Hills, 1903: 109. **Rock R.** There is lately come to Richmond in Yorkshire. Newcastle Courant January 15, 1725/6. 38: 4. **Rock R.** Dr. Rock, Occulist and Chymist. London Daily Advertiser. Aug. 15, 1735. 141: 2. **Rogers GC.** "The East Florida Society of London, 1766-1767". Florida Historical Quarterly, LIV (April 1976), pp. 479-496. **Rogers GC,** Chesnutt DR (eds.) The Papers of Henry Laurens. Volume Six: Aug. 1, 1768-July 31, 1769.

University of South Carolina Press. Columbia SC. 1978. **Rolls R.** Archibald Cleland: c. 1700-71. *Br Med J (Clin Res Ed)*. 1984 Apr 14; 288(6424): 1132-1134. **Rouviere J. S.** Rouviere, Occulist. *Felix Farley's Bristol Journal*. Vol. XI. June 26, 1762. pp. 1-4. **Rouviere J.** Miller. Mr. Miller, Whose Knowledge in Physic, and Twenty Years regular Practice. *Derby Mercury*, January 13, 1764, vol. XXXII, No. 45, p. 4. **Rouviere J.** Mr. Rouviere, Oculist. *Derby Mercury* March 16, 1764, vol. XXXIII, no. 2, p. 1. **Rouviere J.** Mr. Rouviere, regular bred Occulist, from Paris, but lately from Corke. *Dublin Gazette*. July 27-30, 1765. p. 3. **Rouviere J.** That celebrated Oculist M. Rouviere. *Dublin Mercury* (1766) (Dublin), Feb. 4- 7, 1769; Issue 357: 2. **Rouviere J.** Sir James Taylor, had an Operation performed on his Eye for the Extraction of the crystalline Humour. *Dublin Gazette*. Sep 16-19, 1769; number 2067, page 2. **Rouviere J.** Mr. Rouviere, Surgeon Oculist. *Saunders's News-Letter*. May 2, 1774. No. 5293. p. 1. **Rouviere.** Mr. Rouviere the oculist. *Belfast Newsletter*. Nov. 14-18, 1777. No. 4203. p. 2. **Rouviere.** Mr. Rouviere, Oculist, Who is just arrived from Dublin. *Belfast Newsletter*. June 20-23, 1780. No. 4474. p. 2. **Rouviere J.** Mr. Rouviere, Oculist, who is just returned from his tour. *Dublin Evening Post*. Sep. 25, 1781, No. 570. p. 1. **Rouviere J.** The vast Number of Poor. *Saunders's News-Letter*. Oct. 3, 1783. No. 8282. p. 3. **Rouviere J.** Mr. Rouviere, Oculist...a Law-suit now concluded. *Dublin Evening Post* July 27, 1784. No. 1019. p. 1. **Rouviere J.** Mr. Rouviere, Oculist, though scarce recovered from his late indisposition. *Saunders's News-Letter* July 5, 1787. No. 9440. p. 2. **Rouviere Mosse H.** *Gratitude and Other Tales*. London: Newman. Vol. 1. 1826, pp. 162-241. **Rowley W.** A treatise on the principal diseases of the eyes; containing a critical and candid examination of the antient and modern methods of cure...By William Rowley, Surgeon. London: Newbery, 1773: 158. **Rowley W.** An answer to the criticism in the Monthly review for October 1779, on a pamphlet lately published, called Seventy-four cases, &c. London, 1779a, p. 12. **Rowley W.** Seventy four select cases, with the manner of cure, and the preparation of the remedies. London: Newbery, 1779b, p. 58. **Rowley W.** The rational practice of physic of William Rowley, M. D. Member of the University of Oxford, The Royal College of Physicians in London, and Physician to the St. Mary-Le-Bone Infirmary, &c. &c. Vol. 1. London: Rowley, 1793, p. 277. **Rowley W.** The rational practice of physic of William Rowley, M. D. Member of the University of Oxford, The Royal College of Physicians in London, and Physician to the St. Mary-Le-Bone Infirmary, &c. &c. Vol. 3. London: Rowley, 1793, p. 308-9. **Rushton P.** The rise and fall of seditious words, 1650 to 1750. *Northern History*. 2015;52(1):68-84. **Russell J. J.** Russell, professor of physick and oculist. at the two blew-posts against Grays-Inn in Holbourn these pictures present what I have cured by manual operations besides such variety of other cures on the sick, lame, and blind. *British Library Collection of 185 Advertisements (shelfmark C112f9[1])*. London: Russell, c. 1680a: 1. **Russell J. J.** Russell, professor of physick, and oculist. At the two blew posts against Grays Inn in Holbourn: It's needless to declare the particulars of those cures I formerly performed in Smithfield, because many thousands have seen such varieties both of sick, lame and blind. *British Library Collection of 185 Advertisements (shelfmark C112f9[148])*. London: Russell c. 1680b: 1. **Russell J.** Removed from Smithfield to Leather-Lane in Holborn...near Hatton-Garden. *British Library Collection of 231 Advertisements (shelfmark 551A32[220])* c. 1680: 1. **Russwurin V.** Valentine Russwurin, a foreign Physician and Oculist, to Lord Burghley; concerning his chemical analysis of human urine. 1555-1596; *Lansdowne MS 101/4 (1555-1596)*. **Rye W** (ed.). *Depositions Taken Before the Mayor & Aldermen of Norwich, 1549-1567: Extracts from the Court Books of the City of Norwich, 1666-1688*. Norfolk and Norwich Archaeological Society, 1905: 144. **Sadler J.** *The Hampshire Directory*. Winchester: Sadler, 1784: 145. Available from: specialcollections.le.ac.uk **Sare.** Dr. Sare, Surgeon and Oculist. *Stamford Mercury*. Oct 2, 1735. No. 173. p. 4. **Satchell M.** Bracken, Henry (bap. 1697, d. 1764). *Oxford Dictionary of National Biography*. 2012. **Saunders JC, Farre JR.** A Treatise on Some Practical Points Relating to the Diseases of the Eye, by the Late John Cunningham Saunders, Demonstrator of Anatomy at Saint Thomas's Hospital, Founder and Surgeon of the London Infirmary for Curing Diseases of the Eye. To Which is Added, A Short Account of the Author's Life, and His Mehtod of Curing the Congenital Cataract, by His Friend and Colleague, J. R. Farre, M.D.

London: Longman, 1811. **Saunders** JC, Farre JR. A treatise on some practical points relating to the diseases of the eye, by the late John Cunningham Saunders, demonstrator of Anatomy at Saint Thomas's Hospital, Founder and Surgeon of the London Infirmary for Curing Diseases of the Eye: to which are added, a short account of the author's life, and his method of curing the congenital cataract, by his friend and colleague, J. R. Farre, M.D. London: Longman, 1816: 193. **Scarse** CE. Birmingham 120 Years Ago: Being a Reprint of an Old Directory, Published in 1777. Birmingham: Cornish Brothers, 1896: 52. **Schedet**. Doctor and Oculist Schedet. Oxford Journal October 24, 1778. No. 1330. P. 3. **Schedet**. Doctor and Oculist Schedet...is now arrived at Buckingham". Jackson's Oxford Journal. January 9, 1779, number 1341, p. 3. **Scholes** J. Scholes's Manchester and Salford Directory. Manchester: Sowler 1794, p. 51. **Schultius** J. John Schultius an High-German Physician, and Operator in Chirurgery. British Library Collection of 185 Advertisements (shelfmark C112f9[27]). **Schwartz** SG, Leffler CT. Uses of the word "macula" in written English, 1400–present. Survey Ophthalmol. 2014;59(6):649-54. **Schwartz** SG, Leffler CT, Grzybowski A, Koch HR, Bermudez D. The Taylor Dynasty: Three Generations of 18th-19th Century Oculists. Historia Ophthalmologica Internationalis. 2015; 1: 67-81. **Scott** H. Fasti Ecclesiae Scoticanæ: the succession of ministers in the Church of Scotland from the Reformation. Vol. V. Edinburgh: Oliver, 1925: 289-90. **Scottish** Burgh Records. Extracts from the Records of the Burgh of Edinburgh: A.D. 1573-1589. Edinburgh: Scottish Burgh Records Society, 1882: 536. **Scultetus** AH, Villavicencio JL, Rich NM. The life and work of the German physician Johannes Scultetus (1595–1645). J Am College Surgeons. 2003; 196(1):130-9. **Scultetus** J. The Chyrurgeons store-house furnished with forty-three tables cut in brass, in which are all sorts of instruments. London: John Starker, 1674: 19-133. **Seabrooke** R. Seabrookes caueat: or His warning piece to all his louing country-men, to beware how they meddle with the eyes. In which is contayned the exact and most certaine remedies for all manner of infirmities, which shall happen vnto the eyes. Written for the generall good of this whole monarchie of great Brittain. By Richard Seabrooke, practicioner in the art of the occulist. London: Edward Allde, 1620. **Sedra**. Sedra (Italian) Physician and Oculist. Leeds Intelligencer. Vol. XVI. No. 845. August 22, 1769. p. 2. **Sedra**. Dr. Sedra, Physician and Oculist. Leeds Intelligencer November 18, 1783.vol XXX. no. 1539. p. 3. **Semonetti**. Dr. Semonetti, Occulist. Manchester Mercury. August 19, 1794. No. 2252. p. 4. **Simonetti**. Dr. Simonetti. Aurist and Oculist. Chester Chronicle Feb. 20, 1795. No. 1028. p. 3. **Shand** W. Memoir of Dr. Thomlinson. Archaeologia Aeliana, Or, Miscellaneous Tracts Relating to Antiquity. Vol. X. Society of Antiquaries of Newcastle-upon-Tyne. Newcastle-Upon-Tyne. Reid: 1885: 59-79. **Sharp** S. A treatise on the operations of surgery, with a description and representation of the instruments used in performing them...By Samuel Sharp, Surgeon to Guy's Hospital. London: Watts, 1739: 157-65. **Sharp** S. XXIV. A description of a new method of opening the cornea, in order to extract the crystalline humour; by Mr. Samuel Sharp, Surgeon to Guy's Hospital, and FRS. Philosophical Transactions of the Royal Society of London. 1753 Dec 31(48):161-3. **Sharp** S. L. A second account of the new method of opening the cornea, for taking away the cataract; by Samuel Sharp, Surgeon to Guy's Hospital, and FRS. Philosophical Transactions of the Royal Society of London. 1753 Dec 31(48):322-31. **Sharp** S. A critical enquiry into the present state of surgery. By Samuel Sharp, F. R. S. And Surgeon to Guy's Hospital. London: Tonson, 1754: 251. **Sharp** S. A second account of the new method of opening the cornea, for taking away the cataract; by Samuel Sharp, Surgeon to Guy's Hospital. In: Philosophical transactions: giving some accompt of the present undertakings, studies and labours of the ingenious in many considerable parts of the World. Vol. 48. Part 1. London: Martyn, 1754, p. 322. **Sharp** S. A treatise on the operations of surgery, with a description and representation of the instruments used in performing them...By Samuel Sharp, Fellow of the Royal Society, and Member of the Academy of Surgery at Paris. London: Tonson, 1758: 166. **Sharp** S. A treatise on the operations of surgery, with a description and representation of the instruments used in performing them...By Samuel Sharp, Fellow of the Royal Society, and Member of the Academy of Surgery at Paris. London: Tonson, 1761: 166. **Sharp** S. A treatise on the operations of surgery, with a description and representation of the

instruments used in performing them...By Samuel Sharpe, Fellow of the Royal Society, and Member of the Academy of Surgery at Paris. London : printed for Robinson and Roberts, in Paternoster-Row, 1769: 174-5. **Shepherd** L. Doctour double ale. London: A. Scoloker. 1548. **Shepherd** L. A pore helpe The buklar [and] defence of mother holy kyrke and weape[n] to driue he[n]ce al the against here wircke. London: J. Day and W. Seres, 1548. **Shepherd** L. The vpcheringe of the messe. London: By Iohn Daye and Willyam Seres, 1548. **Shippen** W, Corner BC. William Shippen, Jr., pioneer in American medical education; a biographical essay. With notes, and the original text of Shippen's student diary, London, 1759-1760; together with a translation of his Edinburgh dissertation, 1761. Philadelphia: American Philosophical Society; 1951:19. **Silverman** BC. Monastic medicine: a unique dualism between natural science and spiritual healing. John Hopkins Undergraduate Research Journal. 2002;1:10-7. **Simpson** GH. The life and death of Thomas Wolsey, cardinal: once archbishop of York and Lord Chancellor of England. London: Washbourne 1901: 192. **Singer** J. Blindness and therapy in late medieval French and Italian poetry. Boydell & Brewer Ltd; 2011: 136-146. **Skelton** J. Here after foloweth a lytell boke, whiche hath to name, Why come ye nat to courte. London: Copland. 1545, np. **Smiles** S. Industrial Biography: Iron Workers and Tool Makers. London: Murray 1863, p. 103. **Smith** GM. A history of the Bristol Royal Infirmary. Bristol: Arrowsmith, 1917: 256-60. **Smith** R. Dr. Richard Smith, of Islington, Occulist to his present Majesty. Weekly Journal of British Gazetteer (London). July 13, 1728. Issue 164: 4. **Somerville-Large** LB. The development of ophthalmology in Ireland. Ir J Med Sci. 1960; 411:97-129. **Sorsby** A, Bishop WJ. A portrait of Richard Banister. Br J Ophthalmol. 1948 Jun;32(6):362-6. **Souburg** A. Mille opifex rerum medicaminis...to this famous city of London is come Dr. Abraham Souburg, a renowned and well experienced physitian, cutter of the stone, and oculist; who by Gods assistance hath by his art, and skill, gotten great repute in the United Provinces of the Netherlands. British Library's Collection of 185 Advertisements (shelfmark C112f9[140]). [London?: s.n., 1690?] **Spalding** J. The History of the Troubles and Memorable Transactions in Scotland. Volume 2. Edinburgh: Ballantyne. 1829: 169. **St. Ildephont**. The Baron of St, Ildephont, Occulist. Gazetteer and New Daily Advertiser (London), Tuesday, January 13, 1778; Issue 15262: 7. **Stenger** G. Joseph Hillmer, Diderot et La Mettrie: sur les traces de l'oculiste prussien de la Lettre sur les aveugles. Société Diderot; 2014 Nov 10. **Stephen** L (ed.). Dictionary of National Biography. Vol. III. Baker-Beadon. London: Smith, 1885, p. 423. **Stephen** L. Dictionary of National Biography. Volume 23. Gray-Haughton. New York: Macmillan. 1890: 264. **Stopani**. Dr. Stopani & Co. the Italian doctors & oculists, from the University of Padua. London, 1793: 1. **Stork** W. Six poor blind Men were couched in the presence of several Physicians and Surgeons, by Doctor Stork. The Belfast Newsletter. April 3, 1753. Issue 1623. p. 2. **Stork** W. Leedes, July 6. Doctor Stork, Oculist to Her Royal Highness the Princess of Wales. Leeds Intelligencer. July 6, 1756. Page 3. Findmypast.com **Stork** W. Dr. Stork, Oculist to her Royal Highness the Princess of Wales. Newcastle Courant. December 23, 1758. No. 4299. p. 3. **Stork** W. Petition of William Stork to King in Council, [n.d., but 1766 or early 1767], Correspondence between Grant, Moultrie, and Tonym, and the secretaries of state. [Held by the Library of Congress] CO. 5/548, f. 152, p. 297. **Strode** W. The Poetical Works of William Strode (1600-1645). London. Dobell. 1907. pp. 85-6. **Strype** J. The history of the life and acts of the Most Reverend Father in God, Edmund Grindal, the first Bishop of London, and the second Archbishop of York and Canterbury successively, in the reign of Queen Elizabeth. Oxford: Clarendon Press, 1821: 430. **Sully** L. Dr. Laurence Sully, Surgeon, Oculist, Dentist, and Operator for the Ears. The Bath Journal. May 31, 1762. Vol. XXX. No. 1548. www.lastchancetoread.com/docs/1762-05-31-the-bath-journal.aspx **Sully** L. Dr. Laurence Sully, Surgeon, Oculist, Dentist, and Operator for the Ears. The Bath Journal. March 29, 1773. freepages.rootsweb.com/ **Summerton** N. Medicine and Healthcare in Roman Britain. Buckinghamshire: Shire Publications. 2007: 39-40. **Swaine** F. Ferrand Swaine, Oculist. Daily Courant (London), September 13, 1716; Issue 4649. p. 2. **Taylor**. By the assistance of Mrs. Taylor, Oculist. Public Advertiser (London). May 11, 1754; Issue 6091: 3. **Tadiny**. The Chevalier de Tadiny. Public Advertiser (London), Jan. 30, 1788; Issue 16756: 5. **Tadiny**. The Chevalier de

Tadiny, Count of Palatine, Occulist to the Court of France. *World* (London), Jan. 22, 1788; Issue 332: 3. **Talbot** CH. *Medicine in Medieval England*. London: Oldbourne. 1967. P. 94, 109, 110, 114. **Taylor** DW. The manuscript lecture-notes of Alexander Monro, Secundus (1733-1817). *Medical History*, 1978, 22: 174-186. **Taylor** J. Mr. Taylor...couch'd four more Persons for the Cataract. *Daily Journal* (London). July 27, 1726. Issue 1726. p. 1. **Taylor** J. A letter humbly inscribed to the Reverend Dr. Desaguliers, L. L. D. Chaplain to his Grace The Duke of Chandos, and Fellow of the Royal Society: Recommended to the perusal of the inhabitants in the city and diocess of Bristol. Bristol: Penn, 1729: 4. **Taylor** J. Mr. Taylor, Surgeon and Oculist. *Newcastle Courant* June 19, 1731. No. 321. p. 2. **Taylor** J. That eminent surgeon and oculist, Mr. Taylor. *Caledonian Mercury*. Nov. 30, 1731. No. 1817. p. 4. **Taylor** J. They write from Dublin. *Caledonian Mercury* Nov. 28, 1732. No. 1973. p. 2. **Taylor** J. We hear that Dr. Taylor has lately made an artificial pupil. *Grub Street Journal* (London), Nov. 13, 1735; Issue 307: 3. **Taylor** J. Bath, June 14. Last Night Dr. Taylor his Majesty's Oculist. *Daily Gazetteer* (London Edition), June 17, 1736; Issue 304:1. **Taylor** J. Mr. Taylor, Oculist, who has practiced since the year 1743. *Public Advertiser* (London), Saturday, Feb. 4, 1758; Issue 7258: 1. **Taylor** J. A few days since the Chevalier Taylor, Ophthalmiater (oculist). *Dublin Courier* May 26, 1760. No. 262. p. 2. **Taylor** J. We learn from last post from Limerick. *Belfast Newsletter*. July 29, 1760. No. 2395: 2. **Taylor** J. The history of the travels and adventures of the Chevalier John Taylor, ophthalmiater... Written by himself. Vol. 1. London: Williams, 1761: 2-20. **Taylor** J. Lettre A Messieurs De L'Académie Royale de Chirurgie de Paris, touchant une nouvelle Découverte sur l'Art de rétablir la Vue, quand on l'a perdue par la Maladie connue sous le nom de Cataracte, où l'on démontre avec l'évidence la plus Claire, les dangereuse consequences de l'Opération de la Cataracte par extraction, excepté dans le cas où le Crystallin viscieux est devenu fluide. Paris: Taylor. 1766, 1-8. **Taylor** J. *Records of My Life: In Two Volumes, Volume 1*. Bull, 1832: 3. **Taylor** JS. The Roscommon Claim of Peerage; explained by the Speeches, delivered ... before the Lords' Committee of Privileges; containing the speech to evidence of Sydney Taylor, Counsel to the Earl of Roscommon; the reply of Sir C. Wetherell; the speeches of the Lord Chancellor ... the Earl of Limerick, etc. London, 1829: 49-51. **Taylor** P. Peter Taylor to the Marquis of Granby, from the Camp at Wetter, August 29, 1759. *British Museum, Additional Manuscripts* 32895, 5-6. **Thin** R. *Medical Quacks in Edinburgh in the Seventeenth and Eighteenth Centuries*. The Book of the Old Edinburgh Club. Vol. 22. Edinburgh: Constable 1938: 132-59. **Thiselton-Dyer** WT. *Historical Account of Kew to 1841*. *Bulletin of Miscellaneous Information*. 1891; No. 60, pp. 279-327. **Thornton** RJ. The philosophy of medicine: or, medical extracts on the nature of health and disease, including the laws of the animal oeconomy, and the doctrines of pneumatic medicine. Vol. 1. 4th ed. London: Whittingham, 1799, p. 495. **Tilborg** C. Cornelius à Tilbourn... King William and Queen Mary. *British Library's Collection of 185 Advertisements* (Shelfmark C112f9[6]). c. 1689-94. **Tilborg** C. Cornelius à Tilburg...our present Gracious Sovereign Lord King William. *British Library Collection of 231 Advertisements* (shelfmark 551A32[3]). c. 1694-1702. **Tilburg** C. Laus deo semper. The most Renowned High German Operator, Oculist, and Rupture Master, C. T. London. 1690-1700. **Tilburg** C. Laus deo semper. That antient philosopher Plato..." London. 1690-1700. **Toscano** O. Doctor Ornibell Toscano, Operator and Oculist. *Belfast Newsletter*. May 9, 1766. No. 2996. p. 2. **Toscano** O. Doctor Toscano, Operator and Oculist. *Caledonian Mercury*. May 14, 1768. No. 7148, p. 3. **Trevor-Roper** H. Mayerne, Sir Theodore Turquet de (1573–1655). *Oxford Dictionary of National Biography*. 2008. **Underdown** D. *Fire from heaven: life in an English town in the seventeenth century*. New Haven: Yale University Press, 1992: 223. **Uytrecht** JB. Doctor Uytrecht, Oculist, from the Town of Mechlin. *Ipswich Journal*. April 15, 1769. No. 1574. p. 4. **Uytrecht** JB. Surgery, &c. *Newcastle Courant*. February 15, 1772. No. 4978. p. 3. **Uytrecht** JB. Dr. Uytrecht, Oculist. *Newcastle Courant*. September 19, 1772. No. 5009. P. 3. **Uytrecht** JB, Goergslenner CA. Doctors Uytrecht and Goergslenner, Physicians and Oculists. *Hampshire Chronicle*. July 5, 1779. vol. VII, number 359. p. 3. **Uytrecht** JB, Cheese. Drs. Uytrecht and Chuse, Oculists. *The Ipswich Journal* January 20, 1787.

No. 2459. p. 3. **Van Zwanenberg** D, Cockayne EE (ed.). Profiles for “Dunn”, “Reeve, Richard”, “Sedra”, “Smith, Dr. Richard”, “Uytrecht”. Suffolk Medical Biographies.:

www.suffolkmedicalbiographies.co.uk **Venn** JA, Venn J. Alumni cantabrigienses; a biographical list of all known students, graduates and holders of office at the University of Cambridge. 1922. Part 1, volume 1. Cambridge: University Press, p. 189, 306. **Vernon** G. The life of the learned and reverend Dr. Peter Heylyn chaplain to Charles I, and Charles II, monarchs of Great Britain. London: Harper, 1682: 265. **Vigo** G da, Traheron T. The most excellent workes of chirurgerye, made and set forth by maister John Vigon, heed chirurgie[n] of our tyme in Italie, translated into english. [London?]: Whytchurch, 1543. **Vinter** D. The Acadian Exiles in England 1756-1763. The Dalhousie Review. 1957; 36: 344-53. **Violante**. The Perplex'd Polander. Newcastle Courant. June 14, 1735. p. 3. **Vowles**. Mr. Vowles, Surgeon and Oculist. Oxford Journal August 11, 1798.No. 2363. page 1. **Wadd** W. Mems. Maxims, and Memoirs. By William Wadd, Esq. F.L.S. Surgeon Extraordinary to the King. London: Callow. 1827: 252. **Wall** J. Medical tracts by the late John Wall, M. D. Of Worcester. Collected and republished by Martin Wall, M.D. Oxford: Prince, 1780: 106. **Wallis** PJ, Wallis RV. Eighteenth Century Medics (subscriptions, licenses, apprenticeships). 2nd ed. Newcastle Upon Tyne: Phibb: 1988: 29-624. **Walton** T. Mr. Miller, the celebrated Oculist. Manchester Mercury. June 2, 1767. **Ware** J. Remarks on the ophthalmy, psorophthalmy, and purulent eye...By James Ware, surgeon. London: Dilly, 1780. **Warner** J. Cases in surgery...By Joseph Warner, F. R. S. And Surgeon to Guy's Hospital. London: Tonson, 1754. **Warner** J. Cases in surgery...By Joseph Warner, F.R.S. And Surgeon to Guy's Hospital. London: Tonson. 1760. **Warner** J. A description of the human eye, and its adjacent parts; together with their principal diseases, and the methods proposed for relieving them. By Joseph Warner, F. R. S. And Senior Surgeon to Guy's Hospital. London: Davis, 1773. **Warner** J. Cases in surgery; with introductions, operations and remarks. By Joseph Warner, F.R.S. And Senior Surgeon to Guy's Hospital. London: Johnson, 1784: 105. **Wathen**. Dr. Wathen...has performed an operation upon the throat. General Evening Post (London, England), April 24-26, 1783; Issue 7673: 4. **Wathen** J. A dissertation on the theory and cure of the cataract: in which the practice of extraction is supported. London: Cadell, 1785. **Wathen** J, Phipps (Waller) JW. A new method of curing the fistula lacrymalis...also an appendix, on the treatment of patients after the operation for the cataract. London: Dilly, 1792: 78. **Wecker** JJ, Banister J (trans.) A compendious chyrurgerie: gathered, & translated (especially) out of Wecker...by Ihon Banister maister in chyrurgerie. London: Windet, 1585, np. **Weineck** H. Hermannus Weineck, a famous Physician, Oculist, and Chirurgion. The City Mercury, or Advertisements Concerning Trade. (London), November 18, 1675; 3: 1. **Wenzel**. Baron Wenzel, Oculist from Paris. Ipswich Journal October 27, 1764. No. 1345. p. 3. **Wenzel**. Baron de Wenzel, Oculist to their Imperial Majesties. Caledonian Mercury. December 12, 1767. No. 7082. p. 3. **Wenzel**. As many Poor Blind People from the Country come daily to the Baron Wenzel, Oculist to his Majesty. Northampton Mercury, June 10, 1771. Vol. LH. No. XIII. p. 2. **Wenzel**. The Baron de Wensel, Oculist to his Majesty. Newcastle Chronicle August 19, 1780. vol. VIII, no. 838. p. 3. **Wenzel**. Baron de Wenzel, Oculist to their Imperial and Britannick Majesties, is arrived in England. Jackson's Oxford Journal. June 22, 1782. No. 1521. p. 3. **Wenzel** J, Ware J (trans.). A treatise on the cataract; with cases to prove the necessity of dividing the transparent cornea....By M. de Wenzel, jun. Baron of the Holy Roman Empire. Translated...by James Ware, surgeon. London: Dilly 1791: 30. **White** CH. The East Anglian; or Notes and Queries on Subjects Connected with the Counties of Suffolk, Cambridge, Essex and Norfolk. New Series. Volume IX. Norwich: Goose. 1901. p. 187. **Wilks** S, Bettany GT. A biographical history of Guy's Hospital. London: Ward, Lock, Bowden, 1892: 198. **Williamson** P. Williamson's directory, for the city of Edinburgh, Canongate, Leith, and suburbs, from the 25th May 1773, to 25th May 1774. Edinburgh: Williamson 1773, p. 7. **Williamson** P. Williamson's directory, for the city of Edinburgh, Canongate, Leith, and suburbs, from June 1775, to June 1776. Edinburgh: Williamson 1775, p. 65. **Winter** S. Nothing without God: Be it knowne unto all men that the

professor hereof Salvator Winter Moretto, a Neapolitane borne, having travelled through divers countries, aswell in Europe as in Asia and Africa. [London : s.n., ca. 1647]: np. **Winter S.** A nevv dispensatory of fourty physicall receipts.: Most necessary and profitable for all house-keepers in their families. Besides three other pleasant arts fit for young gentlemen. Published by Salvatore Winter of Naples, an expert operator. London: [s.n.], 1649: np. **Wood A.** Athenæ Oxonienses. Vol. 2. an exact history of all the writers and bishops who have had their education in the most ancient and famous University of Oxford, from the fifteenth year of King Henry the Seventh, Dom. 1500, to the end of the year 1690...to which are added, the Fasti, or, Annals, of the said university. London: Printed for Tho. Bennet ..., 1691-1692: 811. **Wood A, Bliss P.** Athenæ Oxonienses: an exact history of all the writers and bishops who have had their education in the University of Oxford. To which are Added the Fasti, or Annals of the Said University...and a Continuiation by Philip Bliss. Vol. 4. London: Rivington. section II, 1820: 122. **Wood S.** A rare manuscript of Chevalier Taylor, the Royal oculist, with notes on his life. The British journal of ophthalmology. 1930;14(5):193-223. **Worcester Royal Infirmary Nurses League.** Dr. John Wall and the early years of Worcester Infirmary. <http://www.wrinl.org.uk/word/drwall.pdf> **Wumkes GA.** Stads en Dorpskroniek van Friesland I. (1700-1800). Door. By Dr. G. A. Wumkes. W. A. Eisma Co. Leeuwarden. 1930: 247,249,255. yumpu.com/nl/ **Wyman AL.** Benedict Duddell: pioneer oculist of the 18th century. J R Soc Med. 1992 Jul; 85(7): 412–415. **Yonge J.** Medicaster medicatus, or, A remedy for the itch of scribbling. The first part written by a country practitioner in a letter to one of the town, and by him prefaced and published for cure of John Brown... refuted. London: Kunholt, 1685: 46. **Young S.** The Annals of the Barber-surgeons of London. Blades, East & Blades, 1890. pp. 324-329. **Young T.** Some observations on the new method of curing the Cataract, by extracting the Crystalline Humour; by Thomas Young Surgeon in Edinburgh. In: Essays and observations, physical and literary. Read before a society in Edinburgh, and published by them. Volume II. Edinburgh: Philosophical Society of Edinburgh. 1756: 324. **Zacch Gillet.** Dr. Zacch, Oculist. Sheffield Register, Yorkshire, Derbyshire, & Nottinghamshire Universal Advertiser. March 22, 1793. Vol. VI. No. 303. p. 2. **Zacch Gillet.** Dr. Zacch Gillet, Physician and Oculist. Leeds Intelligencer. June 3, 1799. Vol. LXVII, No. 2317. p. 3.

5. Chronology of Oculists and Cataract Surgeons in Germany (275-1700).¹

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In 275 CE, a Roman house in the area of Schwarzenacker contains instruments of surgeon Sextus Ajiacius Launus, who was believed to be an oculist because the house contained collyrium stamps. The probe in his instrument set is not typical of couching needles because it does not contain a wider portion to prevent excessive entry of the probe into the eye, but use for cataract couching cannot be excluded (Ellerhorst 1986).

Judah ben Asher (1270-1349) was born in Cologne and had ocular troubles beginning at age 3 months (Abrahams 2006, p. 163). At 3 years of age, he was treated by a woman who only worsened his condition. Then “a Jewess, a skilled oculist...treated me for about two months, and then died. Had she lived another month, I might have received my sight fully.” He moved to France at age 13, and Toledo at age 28 years, and always had limited vision (Abrahams 2006, pp. 163-169).

In 1344, in Braunschweig, lived „Mester Jan der oghenarztet van Goslere" (Baas 1923).

The woman oculist Ulricha de Foschua (fl. 1351) practiced in Munich (Germany) (Wispelwey 2008, p. 1107). A patient willed to her a stone house and a garden (Hurd-Mead 1938, p. 272).

In 1351, Master Jehan of Mainz, an itinerant, operated in Tournai (see Belgium).

In 1359, in Feiburg, a Jewish ophthalmologist practiced. He was referred to as “magistrum Jocctum judeum Solorgicum” (Baas 1923).

In 1366, in Speyer, „meister Johans der augenartzet” practiced (Baas 1923).

In 1368, in Eßlinger, there was a vineyard which had belonged to Meister Hans „ogenartzayt" (Baas 1923).

In 1372, in Eßlinger, Meister Albrecht, “*ougenartzatz*”, owned a house by Oct. 21 (Baas 1923).

Marguerite of Naples trained at the school of Salerno in the late 14th century and became a licensed oculist in Frankfurt-am-Main (Whaley 2011, p. 14).

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An account book from Frankfurt in 1394 includes payment to an “augenartzt” (Helm 1965, p. 26; Baas 1923).

From 1398 to 1410, Isaac was a Jewish oculist in Frankfurt (Koren 1973, p. 63).

In 1410, the Augenarzt Lienhard, who might have lived in Munich, was paid by a duke in Bayern for a horse (Baas 1923).

In 1414, “Meister Jost, Augenarzt” is recorded in the Frankfurt archives (Helm 1965, p. 26; Baas 1923). Additional anonymous “Augenärzttinnen” are recorded there in 1423 and 1427 (Helm 1965, p. 26).

From 1428 to 1431, Serlin (Zerline), was a female Jewish oculist in Frankfurt. Her real name was Gwenlin, and she was forbidden to borrow (or lend?) money at interest (Koren 1973, p. 122; Helm 1965 p. 26).

In 1430, in Bamberg the Augenarzt Meister Peter was noted to be a home-owner in Wörth (Baas 1923).

Unnamed Jewish ophthalmologists were also recorded in Frankfurt in 1436 and 1446 (Helm 1965, p. 26).

In 1446, “meister Jacoppe dem ogenarste” was a Jewish oculist recorded in Hildesheim as being in the service of Duke Wilhelm of Braunschweig (Koren 1973, p. 68; Baas 1923).

In 1450, Ghele, a female Jewish oculist, practiced in Cologne (Koren 1973, p. 54).

In 1450, the earliest known Augen “arzt” practiced in Lübeck (Graßmann 1971, p. 119).

In 1450, “Heinricus Swingenfels Oculista” practiced in Leipzig (Baas 1923).

Burkhard Vogtherr (c. 1430-c. 1500) in Buhlerthann, near Wurttemberg, was a “Schnitt-Wund- und Augenarzt”, and the patriarch of the Vogtherr surgical family as the father of Konrad (Vogtherr 1908, pp. 20-3; Rottinger 1927).

In 1470, in Tübingen, “Meister Wolfgang der Augenartzt Tubingae” practiced (Baas 1923).

In 1471, in Gmünd, “Sigmund Vinngk, Augenartzat zu Gmunde” practiced (Baas 1923).

In 1473, the noble Hederich von Dernbach issued master Hans Rose from “Zips” a certificate that he had helped a woman from the village of Schlierbach in Thuringia who had been completely blind in the right eye for 14 years (Wichner 1885, p. 9).

In 1476 a “Conrad von Winsheim, Artzt, Hodensnijder und Augenartzt” was mentioned in Frankfurt (Helm 1965, p. 26; Baas 1923). He was a member of the surgeon’s guild (Baas 1923). This is the first mention in Frankfurt of a doctor who performed lithotomy along with ophthalmology (Helm 1965, p. 26).

In 1477, in Leipzig, at the October Fair, meister Johan von Tockenburck of Jena announced that he had served as a surgeon in recent years for King Matthias of Hungary, and actually removed an arrow from the king (Baas 1923). According to one story, the king, who had been injured at Trebic in 1468, asked for a surgeon to treat him, with the proviso that

failure of the operation would result in death (Paulus 2021, p. 21-2). The surgeon's name was also written Hans von Toggenburg (Paulus 2021, p. 21-2). Toggenburg claimed he did not ask patients for money, unless the patient offered. He performed diverse types of medicine and surgery, including the ability to perform cataract surgery and treat other eye ailments: "Item ouch den star czu stechen an den ogen und etzlich gebrechen an den ogen ouch czu vortreyben" (Baas 1923). Tockenburck also practiced in Alsace (Paulus 2021, p. 22).

In 1487 and 1497, unnamed Frankfurt Augenärzten were robbed (Baas 1923).

In 1487, Konrad Vogtherr, a "Schnitt-, Wund- und Augenarztes", had a son in Dillingen an der Donau (Katritzky 2001; Morrall 1998). Konrad's father was also a surgeon and Augenarzte (Rottinger 1927). Konrad practiced in Schwäbisch Gmünd (Vogtherr 1908, p. 22). He must have still been alive in 1517 when he had a son (Vogtherr 1908, p. 22).

In 1498, Master Hermann was the court oculist for the Brandenburg Elector Johann II ("Cicero") (d. 1499) in Berlin, when the elector asked that Hermann be exempted from municipal taxes (Henning 1989; Baas 1923).

In 1502, it was recorded in Worms, that Meister Philips from Elsass successfully "stache den Star in Augen" of Meister R. Noltz who had been blind for 5 years. The negotiation took place in a home. "(Baas 1923)

In 1504, Meister Johann van Mortze, Okulist und Wundarzt ("mester Johann van Moersse, de oculiste") practiced in Braunschweig (Baas 1923).

In 1510, the Jewish oculist Moses was spared death by fire in Berlin, probably because of his specialized knowledge. Thirty-eight of his co-religionists were condemned to death after a theft at a church followed by confessions under torture. Moses' life was spared and he was permitted to convert and join a Franciscan monastery under the name Petrus (Henning 1989).

In the 1520s, Bartholomäus Vogtherr (d. 1536), an oculist at Dillingen an der Donau, published an advertising leaflet (Muller 1987). He was the son of Konrad and brother of Heinrich the Elder. From 1530 onwards, Bartholomäus was the Augenarzt to the bishop of Augsburg in Dillingen (Rottinger 1927).

Between 1534 and 1542, Bonifacius Kindsvatter, augenartzet practiced in Schorndorff in Württemberg. In 1537, he treated a man who had been blind for 8 years, who was so grateful to this Protestant ophthalmologist for his restored eyesight that he converted in 1541 (Baas 1923).

In 1537, a Schneidarztes named Heinrich Lindenplat von Möckmühl indicated he had silver surgical instruments from his art of "Bruch-und Steinschneiden und Augenarznei" (Baas 1923).

In 1550, Magister Jacob Melleman of Lubeck served as the "steenechnider und ogenarzt" for the city of Lubeck and was therefore exempt from taxes (Marx 1970, p. 6).

In 1556, Heinrich Vogtherr the Elder (1490-1556) died in Vienna. He was born in Dillingen an der Donau, and trained under his father Conrad as an oculist, before becoming an artist. He fought as a captain in the Peasants War (1524-5). He settled in Strasbourg in 1526. In 1538, he published the earliest known German vernacular ophthalmic text, though he may not have been the author (Blanchard 1997). This text featured anatomical drawings with the crystalline lens in the center of the eye. He was in Zurich from 1544 to 1546. He was briefly in Strasbourg and then Augsburg, before being appointed Imperial oculist in Vienna in 1550, a post he held at the time of his death there in 1556 (Morrall 1998, Muller 1987).

In 1556, Jacob Baumann (1521-86) of Nuremberg, an oculist, was depicted in an etching with a couching needle. He spent some time in Zurich. Baumann helped produce a Germany summary of Vesalius' *Fabrica* (Nutton 2022, pp. 164-6).

In 1559, Caspar Stromayr of Lindau wrote an ophthalmic treatise which described his method of cataract couching. Stromayr's cousin and brother-in-law, Udalrici of Angelburg, also performed cataract surgery (Blanchard 1990).

In 1560, the town council of Nuremberg wrote to that of Augsburg asking for an *Augenarzt* (Jahrgang 1883, p. 27).

In 1564, Ulrich Kindsvatter of Schorndorff (presumably the son of Bonifacius) an *augenartztet*, received a winter coat (Baas 1923).

In the 1570s, Valentine Russwurin of Germany travelled through northern countries, and he advertised in Denmark (Leffler "British Isles" 2021; Norrie 1896/7).

In 1570, Stephan von Sütphen (the oculist patriarch), born about 1550, trained as an oculist and surgeon in Danzig under Jakob von Harnbergen, and then moved to the Fläming region of Germany, where he, and four generations of his family practiced as oculists, including his son Johann von Sütphen (Henning 1989).

In 1570, Ludwig Müllner of Strassburg, a "Stein- und Bruchschneider, Oculist, Wund- und Leibarzt", requested permission to practice in Kitzingen (Siber 1838, p. 44-45).

In 1575, Anna Pfeilschmidin, "*Augenärztin*", was paid by the city of Munich (Wibmer 1863, p. 71).

In 1581, the oculist and fracture doctor David Grefe (Greve) (d. 1593) was recognized by the city of Braunschweig for 20 successful recoveries, including 18 fractures. His estate contained 20 books (Hackenberg 1986).

George Bartisch (1535-1607) was born in Königsbrück near Dresden, and practiced as an itinerant oculist in Saxony, Silesia, and Bohemia starting in 1568, before settling in Dresden in 1583 (Grunder 1859, p. 338). His ophthalmic treatise *Ophthalmodouleia* was first published in 1583, and covers cataract couching in detail. He was named oculist to Duke Augustus I of Saxony in 1588.¹ Bartisch described enucleations for cancer of the eye. He wrote in the German vernacular, but often provided equivalent Latin terms (also see Austria, Czech, Poland).

¹ Bartisch, Blanchard 1996, Introduction.

In 1591, Peter Härtl of Schneeberg, an “Oculist, Stein- und Bruchschneider” successfully performed two dangerous operations in Freising (Prechtel 1877, p. 25).

In 1592, an “Oculist, Bruch- und Steinschneider” named Mack practiced in Frankfurt (Helm 1965, p. 26).

In 1592, Jacob Soldan, an “Oculist”, was declared respectable, and was thanked by the mayor and lords of Cologne for his work over 4 months in the city. Awarding of this certificate followed the testimony of six patients whom he cured of blindness, some after many years and one of whom had been injured during attempts at cure by other doctors (Jopp 1981, pp. 75-6).

In 1598, the oculist Niclas Delphin from München emigrated to Graz (Weiss; Fellner 1973, p. 4).

In the 1500s and 1600s, several additional oculists were identified in Lubeck, including Meister Jürgen Schenkenberg, Johannes Ulenbrock-Recklinghausen, M. Hans Mollemann, Bartholomäus von Lünenborch, Johannes Hille, Conrad Schrader, and Johannes Fabricius (Marx 1970, p. 6).

In 1601, the oculist Johann von Sütphen had a son born in Goslar (Henning 1989).

In 1602, a certain Lindenthaler, Michael, citizen of Munich, was authorized to practice in Munich various types of surgery, including lithotomy, fractures, cleft lip, cancers, cataracts (“Staarstechen”), and hearing, but could not treat fresh wounds, leg fractures, or provide internal medicines (Wibmar 1863, p. 70-1).

In 1606, Wilhelm Fabricius von Hilden (1560-1634) published his surgical treatise. He performed cataract couching and developed a bench for the patient to sit on, which also had 2 elbow supports for the surgeon (Laios 2018).

On July 24, 1607, Meister Albert Johann Arends (or Arens) from Elbing (Elbląg, Poland) a “Stein- und Bruchschneider, Chirurgus, Oculist und Wundtartz” received a certificate from the town of Hildesheim for curing four blind people: an 80-year-old widow blind in both eyes for 3 years, a 76-year-old grain miller completely blind for 5 years, an honest housewife completely blind for 3 years, and a 70-year-old man blind in the right eye for many years and in the left eye for 2 years (Becker 1902, p. 870-2).

A 1609 decree from the city of Worms warned lithotomists, oculists, and tooth-drawers not to practice outside their trades (Katrizky 2007, p. 178).

In 1610, Bartholomaeus Plunzka “Steinschneider, Oculist und Wundarzt” practiced in Görlitz (Grunder 1859, p. 232-3).

In 1630, Mariano Mariani Rentamts “Okulist” practiced in Munich (Wibmer 1863, p. 72-3).

v. Sütphen (Zütphen), skal være falden som Oberst under Hertugen af Albas Forfølgelser.

Henrik Zütphen, f. c. 1488 i Grevsk. Zütphen, Prior i Antwerpen; dræbt som Martyr i Ditmarsken 1524.

Oversigtstavle over en Slægt Sütphen eller Zütphen i Nederlandene og Tyskland.

Stephan v. Sütphen, f. o. 1550 i Grevskabet Zütphen, Kirurg i Danzig, g. m. Margr. Theiler.

Johan v. Sütphen, f. 15.. † 16.., Okulist og Kirurg i Danzig og Goslar, g. m. . . Schlägel.

(Fællere til Stephan v. Sütphen i Freiberg:)

Christian v. Sütphen, f. 15.. † 16.., Okulist og Kirurg. Stephan v. Sütphen, f. 1601 i Goslar, † 1666 i Freiberg, Okulist og Kirurg, g. 1628 m. Sibylla Haschen, † 1659.

Andreas v. Sütphen, f. 15.. † 16.., Okulist og Kirurg.

Christoph v. Sütphen, f. 1597 i Luik i Brabant, † Dresden 1665, Læge, G. '1) m. Maria † 1651, g. '2) m. Margrete.

Sibylla Elisabeth v. Sütphen, f. 1630 i Freiberg, † før 1667.	Stephan v. Sütphen, f. 1632 i Freiberg, † 1664 i Berlin, Læge, g. m. Anna Sophie Zeck (siden g. m. Ritmester i dansk Tjeneste Joh. Christoph v. Reichel).	Dorothea Sophia, g. m. Andreas Kühn, Okulist.	Christian v. Sütphen, f. 1635 i Dresden, † 1684 i Freiberg, Dr. juris, ugift.	Wilhelm v. S., f. 1636 i Freiberg, † før 1667.	Johannes Ernst v. S., f. 1642 i Freiberg, † før 1667.	Sibylla Elisabeth v. S., f. 1644 i Freiberg, ugift.	1 Søn døde unge før 1667.	1 Datter, i Freiberg.	Dorothea v. Sütphen, g. Krause.	Jeremias v. Sütphen, f. 1639 † 1693, Superintendent i Grimma, g. m. Anna Elisabeth Engel. (ingen Børn).	12 andre Børn † uden Livsarvinger.
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Stephan v. Sütphen, f. 1663, † 1685 som Kornet i brandenb. Tjeneste. Johan Friederich v. Sütphen, f. 1664 † 17.., svensk Vagtmester (antagelig siden Kapl. i polsk-sachsisk Tjeneste og Fader til de 3 i Meklenborg fødte danske Officerer v. Sütphen, se næste Side).

Figure. The Sütphen family of oculists (from Grove 1906, p. 74).

In Feb. 1631, Stephan von Sütphen senior (b. 1601, Goslar, d. 1666, Freiberg) and his older brother Christian (d. 1631 in Leipzig) were awarded privileges to practice as oculists and surgeons throughout the Holy Roman Empire. It was noted that Christian was brought up since his youth by his father and grandfathers in the art of the eye, lithotomy, and fractures, body and wound doctors, throughout the Holy Empire. Stephen von Sütphen senior was trained by his father Johann von Sütphen, and then after his early death by a cousin Andreas von Sütphen, and finally by his older brother Christian - for a total of ten years. A son, Stephan von Sütphen junior, was born in Freiburg in 1632, and was ultimately honored by the elector of Cologne, Saxony and Brandenburg, and licensed to practice in Vienna. In 1636, Stephan von Sütphen senior and Christoph von Sütphen, his oculist cousin, were robbed by 15 horsemen near Lübben in Spreewald. They lost their carriage and nine horses, as well as gold and money. Stephan von Sütphen senior practiced in the Holy Roman Empire, and in "Bohemia, Hungary, Croatia, Sweden, Poland, Denmark, Wallachey". His privileges were renewed by Ferdinand III (1608-1657) in Regensburg in 1641 with an extension for his sons in the event they also took up the profession of oculist, so that "especially in our cities as Prague, Preßlaw [Breslau] and Vienna [you] may practice your art freely in public". Stephan von Sütphen the elder taught his son, and other oculists, such as Michael Brehme of Schmalkalden (Henning 1989). Stephan von Sütphen, senior, also trained Andreas Kuhn, privileged "Stein- und Bruch-Schneider, Augen Leib- und Wund- Arzt" (stone and hernia surgeon, oculist, body, and wound doctor) of the Electoral Saxon and Brandenburg courts, who had died by 1666 (Wappler 1902, p. 86-98). Stephan von Sütphen, senior, also trained: Johannes Zech, an oculist, body and wound doctor ("*Oculist, berühmter Leib und Wund-Arzt*") in Berlin; Herr

Gottfried Hacke, a skilled oculist, body surgeon, and doctor of surgery (“*Oculist, Schnitt-Leib- und Wund-Arzt*”); and Laurentius Schubart, Roman Imperial and Electoral Saxon liberated ophthalmologist and surgeon (“*Ophthalmicus, Leib und Wund- Arzt*”) in Dresden (Wappler 1902, p. 86-98).

In 1636, Christoph von Sütphen (b. 1597, Brabant (Belgium), d. 1665, Dresden), an 'oculist and medicus' in Dresden, was robbed near Lübben (Grove 1906, p. 74; Henning 1989).

In 1640, “Herr Hannsz Schneider”, an “Occulist” from Kamen, Prussia practiced in Kremnica (see Slovakia).

In September 1645, the “Oculist, Bruch- und Steinschneider” Johann Georg Günther requested permission to practice in Frankfurt for 6 months. He was born in Dresden, and lived in Liegnitz in Silesia. He had certificates from Emperor Ferdinand II, from the dean of the medical faculty in Vienna, and from Nuremberg, where he had recently practiced. Günther passed an examination of several Frankfurt physicians, but, given negative testimony from patients, he was not permitted to continue practicing in Frankfurt (Helm 1965, p. 27-8).

Johannes Schreiber, a doctor, “Oculist” and lithotomist from Freyburg practiced in Braunschweig (Katritzky 2007, p. 180, 305). By 1648, he practiced in Estonia (see Estonia chapter).

On Nov. 4, 1649, Martin Petzold, an “Oculist, Stein og Bruchschneider auch Medicus und Wund Arzt”, and his 3 sons, Johan Georg Petzold, Peter Paul Petzold, and Daniel Petzold, were licensed to practice in Flensburg (Burman-Becker 1864, p. 202-204). Peter Paul Petzold had performed his apprenticeship in Lubeck (Marx 1970, p. 6). Martin Petzold had practiced in Stockholm in 1645 (see Sweden).

About 1650, in a German handbill from Adam Victor advertises his services as “Adamus Victor, Oculist, Stein und Bruch-Schneider” (Katrizky 2007, p. 179, 190, 305; Victor 1650).

About 1650, Jacob Louys of France, who described himself as “Oculist operator”, practiced in Zell. His handbill indicated that he had practiced in Hamburg, Emmden, Groningen, and Leuwarden in Friesland. Women could discreetly visit his wife for their conditions (Louys 1650; Katrizky 2007, p. 128-30, 165, 305).

In 1658, Ergar an oculist from Zwickau was captured by the Russian army (see Russia; Unkovskaya 1999, p. 79).

In 1658, Nicolaus Lange, an “Oculist, Stein- und Bruchschneider” and a native of Landeshut, practiced in Görlitz. He had carriages and 14 assistants, who were distributed among the various towns (Grunder 1859, pp. 231-2).

In 1659, Johannes Zech, who learned from Stephan von Sütphen the elder, was registered in Berlin as an “Oculist” and wound surgeon. Zech was the father-in-law of the oculist Stephan von Sütphen the Younger (Henning 1989). Berlin does not have oculists in the 17th century before 1659, perhaps in part as a result of the Thirty Years’ War (1618-1648), which halved the population from 12,000 to 6,200 (Henning).

By 1661, Georg Renner of Lauenburg, who had learned surgery in Lüneburg, had learned hernia surgeries and eye treatments from empirics (Beier 1692, pp. 53-4).

In 1662, Stephan von Sütphen the Younger received privileges in Berlin to practice as an “Oculist” and wound doctor. He was born in Freiburg in 1632 and died in Berlin in 1664, and was the fourth generation of a family with at least 8 oculists in Herzberg, Freiberg, and Dresden (Henning 1989).

In 1665, the city of Kiel passed a law requiring oculists and lithotomists had to receive practice from the dean of the medical school (Marx 1970, p. 9).

Friedrich Kühne, a “Barbier, Oculist, Stein- und Bruchschneider, Stadt- und Wundarzt” was born in 1600 in Reeß in der Neuen Mark, and died 1667 in Nürnberg (Kuhne 1667).

From 1665 to 1673, surgeon Charles Bernoin of Grenoble, France (1615-1673) practiced in the Holy Roman Empire, staying for several months in a city, including a visit to Regensburg in 1673. Bernoin had practiced in Dijon in 1661. He advertised his skills: “tirer la pierre de la vessie [lithotomy], tailler les descentes de boiaux, abattre cataractes [couching cataracts], guérir les ulcérés putrides, stafilomies [staphyloma], taigne, loupe, escrouelles, paralysies...” He healed fractures and cancers. He travelled with 15 to 20 assistants, performing shows where his medicines prevented poisonings and healed burns. He performed on a tightrope in an act which featured fireworks (Katritzky 2001). Bernoin died in January 1673 performing a tightrope act in Regensburg (Katritzky 2007, p. 99, 168, 286-8).

In 1666, Georgi Pitzschki, a “Medicinae Practici, Physici Blanckenburgensis, Oculist, Bruch und Steinschneider”, of Halle, practiced in Blankenburg, and sold medicinal pills (Pitzschki 1666).

In 1667, Johann Dietrich Schertling (or Schartling) of Hamburg, who had performed an apprenticeship in Lubeck, and served as the Hofokulist at Königsberg, moved to Moscow (Marx 1970, p. 6; Henning 1989; Unkovskaya 1999, p. 88; see Russia).

By 1667, Matthias Gottfried Purmann (1649-1711) of Lublin, who couched cataracts, worked for surgeon Balthasar Kaufmann (see Poland) (Grunder 1859, pp. 392-6; Kaczorowski 1998).

Friedrich Rühne (1600-1667), a “Barbierer, Oculist, Stein- und Bruchschneider” was born in Neuen Marck and died in Nürnberg (Mochsen 1771, p. 73).

In 1668, Hans Christoph Kroner, an “Oculist, Stein- und Bruchschneider” who had a stall in near the Perlach in Augsburg, was appointed as a surgeon, against the opinion of the doctors (Jahrgang 1883, p. 27).

In 1668, Georg Weiss (or Weisz) von Hostau, surgeon to the imperial court and to the Elector of Bavaria, who had been approved by the academies of Cologne and Vienna, who was appointed as the “Oculist, Stein- und Bruchschneider, Chyrurgus und Wundarzt” at the court hospital in Munich, issued a certificate of apprenticeship to Franz Saussenhofer, son of a Munich barber. Saussenhofer had learned over three years the treatment of

cataracts [*Starnwirken*], stones, hernias, cancer, tumors, fistulas, and cleft lips (Edelman 1890, p. 33).

In 1669, the “oculist, body, hernia and wound doctor” Johann Regel(ius) from Jägersdorf in Upper Silesia practiced in Frankfurt (Helm 1965, pp. 28-9).

In 1669, Dietrich Pott, an “Oculist” from Schütteldorf, treated a patient named Ludwig Schütte in Meisnershütten, according to handwritten correspondence (Hessisches Hauptstaatsarchiv 1669).

Anna Margaretha Wiedemannin, who stayed in Frankfurt between 1670 and 1676, was a healer who was expelled because of two unfortunate cases. Because she resisted, she was imprisoned and taken away by force (Helm 1965, p. 29).

Since 1672, Johann Rudolph Seiler, who was born in Liechstall, in the region of Basel, Switzerland, had practiced in Freyberg, as an “Oculist, Stein- und Bruchschneider, auch Leib- und Wund-Artzt”, and by 1694, was visiting Bautzen to practice his profession (Seiler 1694).

In 1673, Johann Christoph Reichel from Bautzen, a “Medicus and Ophththalmicus”, married the widow of oculist Stephan von Sütphen the Younger in Berlin. In 1674, Reichel in was listed as a soldier in the Brandenburg service (Henning 1989).

In 1673, Matthias Eisenbarth, an oculist, lithotomist, and fracture-doctor of Oberviechtach, passed away (Henning 1989).

After 1673, Alexander Biller of Bamberg trained Johann Andreas Eisenbarth, the son of Matthias, as an oculist for 10 years (Henning 1989; Katrizky 2007, p. 168).

In 1674, Michael Lochmann, an “Oculist, Stein- und Bruchschneider...und Wundarzt” died in Nurnberg (Mochsen 1771, p. 79).

In 1675, Jacob Wilhelm of Lubeck was an Oculisten, Stein- und Bruchschneider who excised the tumor on the right eyelid of a 12-year-old girl, and healed the incision with a green forest balsam (Marx 1970, p. 6).

Just before 1679, Yurii Gensen (or Martynov), who was Dutch and treated eyes, wounds, and bones, served at the court in Brandenburg for 2 years (Unkovskaya 1999, p. 91, see Russia).

In 1679, Johann Wolf was recommended as an oculist by a physician from Lubeck when Willem Horsten of Russia travelled to Hamburg to recruit surgeons. However, it seems Wolf was not successfully recruited to Russia at that time (Unkovskaya 1999, p. 84-5). He might be related to (or the same as) the oculist Daniel Wulff who performed an apprenticeship in Lubeck (Marx 1970, p. 6).

In 1680, H. Ambrosius, an “Oculist- Stein- vndt Bruchschneider... wundtarzt”, witnessed a wedding in Sontra (“Sontra” 1908, p. 175).

In 1683, the Elector of Brandenburg issued a decree that “Oculisten”, lithotomists, dentists and fracture doctors must submit themselves to examination by the medical college, and all

patient testimonials should be approved by the college. Restrictions on practicing in the markets and use of internal medicines were also issued (Grunder 1859, p. 231).

By 1686, Michael Bernhard Valentini (1657-1729), an oculist, had returned to his hometown of Giessen, after time spent in France, England, and the Dutch Republic. He performed paracentesis for hydrophthalmia, and was also described as an oculist (Leffler “Hydrophthalmia” 2020).

In 1687, Andreas Gundelach, an “Oculist, Bruch. U. Steinschneider” practiced in Großalmerode (Pforr 2004, p. 192).

In 1689, Johann Ulrich Haberstock, a “Wund-Artzt, Oculist, Stein- und Bruchschneider” advertised in Hildburghausen that he could remove cataracts (“*zum Staar auswürcken*”).

By 1691, oculist Jacob Willem of Hamburg had taught Christian Adolph, who travelled to Sweden (Lindberg 2017, p. 38).

By 1691, Baltzer Lemmer had taught Johan Hindrich Schrader how to perform cataract couching in Brandenburg (see Sweden).

In 1692, Zacharias Krause, an “Oculist u. Bruchschneider” practiced in Großalmerode (Pforr 2004, p. 286).

In 1693, Alex. Pichler “Okulist, Stein- und Bruchschneider” practiced in Munich (Wibmer 1863, p. 73).

From 1692 to 1724, Johann Andreas Eisenbarth (1663-1727) from Oberviechtach practiced throughout Northern Germany (Helm 1965, p. 29-30), including 5 times in Berlin (Henning 1989). He visited Dresden in 1692, and Spandau in 1698 (Marre 1982, Henning 1989). He practiced in Frankfurt in 1700 to 1701, and his public practice on an open stage was observed by the young Lorenz Heister (Helm 1965, p. 30). His troupe featured tightrope walkers (Henning 1989). A comedy played on his stage, but due to its scandalous nature, the stage was destroyed by the authorities (Helm 1965, p. 30). Only one of the 3 blind patients Eisenbarth operated on could see to some extent afterwards (Helm 1965, p. 30). He practiced in Kassel and St. Goar in 1704. In 1704, he claimed that two of the patients he operated on in Frankfurt could see afterwards, and he advertised that one of his servants had escaped (Helm 1965, p. 30-1). He also resided in Magdeburg in 1704 (Henning 1989). In 1705, he removed a bladder stone (Helm 1965, p. 31). He also performed surgery for hernias, cleft lip, and cancer (Henning 1989). Eisenbarth also practiced in Innsbruck, Hamburg, Koblenz, Breslau, and Danzig (Katrizky 2007, p. 168).

In 1695, Leopoldus Dietericus Gosky in Frankfurt, supervised by Bernhard Albinus, defended a thesis depicting instruments for grasping a cataract and pulling it out of the eye through a hollow needle. Gosky reported that an itinerant oculist boasted that he had such a needle which had been sent to him by a friend from Riga (Gosky 1695, pp. 25-26; Watson 1846, p. 59).

On Aug. 24, 1697, an “oculist und Bruchschneider” was permitted to prepare a theater to practice his art in Graubünden (Graubündens 1913, p. 129).

In 1698, Johann Michael Sutorius, a barber and surgeon of Württemberg and Nuremberg, asked the Frankfurt magistrate to provide a certificate based on a patient's statement that Sutorius had removed a mass from above the eye (Helm 1965, p. 29).

In July 1698, oculist and herniotomist Christian Hagenest was listed in a baptismal record as a godfather in Spandau. Hagenest was a member of Eisenbarth's troupe, which was then practicing in Spandau (Katrizky 2007, p. 169).

In 1714, a law in Lubeck stipulated that travelling oculists (and other itinerant surgeons) had to pass an examination before the mayor and the pharmacists to demonstrate that their skills exceeded those of the local surgeons, or the itinerant was required to vacate the city immediately (Marx 1970, p. 8).

In 1740, the oculist and operator Johann Tobias Joseph Kern of Breslau practiced in Brunn (Katrizky 2007, p. 280).

In 1742, surgeon Maria Francisca Charlotta Gehring came to Frankfurt. She had learned from her father, the "oculisten" and lithotomist Franz Gehring (Helm 1965, p. 37-9). She signed with the title "Med. Doct." She had received certificates from the medical faculty in Stuttgart, who had examined her, and a certificate from the city of Strasbourg, where she had lived since 1738. She asked the medical council to treat patients for 3 weeks in her quarters, but not in public. The council rejected her application, explicitly because she was a woman. However, she appealed to emperor Charles VII, who happened to be in Frankfurt, and he permitted her medical practice on the basis of her certificates. Her advertisements offered to cure "All sorts of blindness of the eyes, even if it has lasted 5, 10, 12 or more years", from cataracts ("Staren"), even if congenital. In 1748, she announced some of her recent operations: she had restored sight to six blind people, including a child and a girl of nineteen, all from the vicinity of Frankfurt and Mainz. She also operated on cleft lips on children aged one to six years (Helm 1965, pp. 37-40). In 1753, in Zurich, she treated a boy blind from smallpox whom local surgeons and the oculist Hillmer had deemed incurable. He improved with a powder, electuary, and ointment. While in Switzerland, she became known as "Madame de Gehring" (Helm 1965, pp. 37-40).

In 1755, Taverne was the first in Berlin to extract cataracts (Henning 1989).

In 1783, Johann Georg Drenkler advertised that he was an "Operator , Okulist, Stein und Bruchschneider", a native of Kamm in Bavaria, and a resident of Bischheim an Saum near Strasbourg. He advertised that he could cure "grauen und weißen Staar" in a few minutes so patients can see the smallest bird on the roof, even if vision has been lost for 10 to 15 years (Baldinger 1783, p. 572).

References.

Baas K. Augenärztliches aus dem späteren deutschen Mittelalter. Albrecht von Graefes Archiv für Ophthalmologie. 1923 Mar;111(1):84-90. **Baldinger** EG. Neues Magazin für Ärzte. Vol. 5. Leipzig. 1783, p. 572. **Bartisch** G, Blanchard DL (trans.). Ophthalmodouleia: That is the Service of the Eyes. 1583. Ostend: J.-P. Wayenborgh 1996. **Becker** E. Hildesheimer Chirurgen in alter Zeit. Von Dr. med. Ernst Becker. Archiv für klinische Chirurgie. 1902; 66: 863-87. **Beier** A. Prudentiae iuris officiarum novum specimen, de officinis et tabernis opificum = Von Werkstätten und Krahm-Laden

der Handwerks Leute. Jena: Gollner, 1692: 53-4. **Blanchard DL.** Caspar Stromayr: Sixteenth Century Ophthalmologist. *Survey of Ophthalmology*. 1990; 35(2): 164-70. **Blanchard DL.** Vogtherr's Buchlin. *Minds and Machines* 1997; 93:73-9.

Burman-Becker. Et mærkeligt Privilegium for en Qvaksalver i Danmark. *Archiv for Pharmaci og teknisk Chemi*. 1864: Copenhagen. Vol. 18. 202-204. **Ellerhorst B, Cibis GW.** Roman ophthalmology. A glimpse of our distant past. *Surv Ophthalmol* 1986 Jan-Feb;30(4):263-6. doi: 10.1016/0039-6257(86)90123-2. **Fellner R, Höflechner W.** Die Augenheilkunde an der Universität Graz. Graz Akademische Druck- u. Verlagsanstalt 1973. **Gosky LD.** De catarrhacta defendente Leopoldo Dieterico Gosky. – Francofurti. Zeitlerus 1695. **Graßmann A.** Rebecca Marx: Geschichte der Augenheilkunde in Lübeck. In: 150 Jahre Verein für Lübeckische Geschichte und Altertumskunde 1821-1971. *Zeitschrift des Vereins für Lübeckische Geschichte und Altertumskunde*. Band 51. 1971. p. 119. **[Graubündens]** Jahresbericht der Naturforschenden Gesellschaft Graubündens. Neue Folge LIV. Band. Vereinsjahr 1912/ 1913./18 Mit 1 Abbildung im Text. CHUR. In der Kommission der F. Schuler'schen Buchhandlung. 1913. **Grove GL.** En formentlig Slægtskabsforbindelse mellem den freiberigske Kirurg Stephan von Sütphen og den danske Adelsslægt Zytphen. *Personalhistorisk Tidsskrift: Femte Række*. Udgivet Af Samfundet For Dansk-Norsk Genealogi Og Personalhistorie. Copenhagen. 1906: 3 Bind: 54-75.

Gründer JW. Geschichte der Chirurgie von den Urzeiten bis zu Anfang des achtzehnten Jahrhunderts. Breslau: Trewendt & Granier, 1859. **Haberstock JU.** Von Gottes Gnaden Wir Ernst/ Hertzog zu Sachsen/ Jülich/ Cleve und Berg ... Thun kund und fügen hiermit zu wissen/ Demnach bey Uns Johann Ulrich Haberstock/ Wund-Artzt/ Oculist/ Stein- und Bruchschneider alhier unterthänigst nachgesuchet/ ihn mit einem Privilegio, daß er in Unserer Landes-Portion vor andern zum Staar auswürcken ... : Hildburghausen/ den 4. Octobris, des Sechzehen hundert Neun und Achtzigsten Jahrs. 1689. www.deutsche-digitale-bibliothek.de/ **Hackenberg M.** Books in artisan homes of sixteenth-century Germany. *Journal of library history*. 1986 Jan 1:72-91. **Helm J.** Die Geschichte der Augenheilkunde in Frankfurt am Main bis zum Beginn des 19. Jahrhunderts. Johann-Wolfgang-Goethe-Universitaet, Frankfurt am Main; 1965. **Henning A.** Zur Augenheilkunde im 18. Jahrhundert: Das «Okulisten-seculum» in Berlin. *Fortschritte der Ophthalmologie*. 1989;86(3):256-8. **Hessisches Hauptstaatsarchiv**, 170 III, 975. "1669: Juli-Oktober 1669" www.deutsche-digitale-bibliothek.de **Hurd-Mead KC.** A history of women in medicine, from the earliest times to the beginning of the nineteenth century. Haddam, Conn.: Haddam 1938. **Jahrgang Z.** Zeitschrift des Historischen Vereins für Schwaben und Neuburg. Augsburg: Schlosser, 1883: 27. **Jopp R.** Die Geschichte der Augenheilkunde in der Stadt Köln bis zum Beginn des 19. Jahrhunderts. Universität zu Köln. 1981. **Kaczorowski W.** [Matthaus Gottfried Purmann (1649-1711). Contribution to the history of surgery]. *Med Nowozytna*. 1998;5(2):101-7. **Katritzky MA.** Marketing medicine: the image of the early modern mountebank. *Renaissance Studies*. 2001 Jun 1;15(2):121-53. **Katritzky MA.** Women, Medicine and Theatre, 1500–1750. *Literary Mountebanks and Performing Quacks*. 2007. **Koren N.** Jewish physicians : a biographical index. Jerusalem: Israel Univ. Press, 1973. **Kuhne F.** Friedrich Kühne, Barbier, Oculist, Stein- und Bruchschneider, Stadt- und Wundarzt; geb. 2. März 1600; gest. 12. Januar 1667. www.deutsche-digitale-bibliothek.de/ **Laos K.** Wilhelm Fabricius von Hilden (1560-1634): The Pioneer of German Surgery. *Surgical Innovation*. 2018 Jun;25(3):301-3. **Leffler CT, Schwartz SG.** Hydrophthalmia and Paracentesis. In: Leffler CT (ed.). *The History of Glaucoma*. Amsterdam: Wayenborgh, 2020, pp. 137-151. **Leffler CT, Schwartz SG, Peterson E, Couser NL, Salman AR.** The first cataract surgeons in the British Isles. *Am J Ophthalmol*. 2021;230:75-122. **Louys J.** Nichts ohne Gott: Edle Herren/ der weise Heyde Plato sagt ein schön Sprüchwort ...Dieser Kunstreicher berühmter Frantzösischer Docter Jacobus Louys Oculist operator ist losirt im gülden Hirsch/ in der Neienstrassen in Zell [Nothing without God: Noble Lords, the wise heathen Plato says a beautiful proverb...; [This artful and famous French Doctor Jacobus Louys, oculist and operator, is residing at the Golden Stag in New Street in Zell]]. circa 1650. www.deutsche-digitale-bibliothek.de/ **Marré E.** Zur Geschichte der Augenheilkunde in Dresden. *Wissenschaftliche Beiträge der Martin-Luther-Universität Halle-Wittenberg*. 1982;52(R77):1-4. **Marx R.** Geschichte der Augenheilkunde in Lubeck. Lubeck. Akademie Lubeck. 1970. **Mochsen FCS.** Verzeichnis einer Sammlung von Bildnissen, grösten theils berühmter Aerzte. Berlin: Himburg, 1771: 73. **Morrall A.** Heinrich Vogtherr the Elder. *Print Quarterly* 1998; 15: 317-319. **Muller F.** Heinrich Vogtherr, alias Heinrichs Satrapitanus, alias the Master HS with the Cross'. *Print Quarterly*. 1987 Sep 1;4(3):274-82. **Norrie G.** Oculists in ancient times especially in Scandinavia. *Janus*. Vol. 1. 1896-7; 227-42. **Nutton V.** Renaissance medicine: a short history of European medicine in the sixteenth century. New York: Routledge, 2022. **Paulus C.** Leibärzte und höfische Kommunikation im Europa des ausgehenden Mittelalters. In: Hilber M, Taddei E (ed.) *In fürstlicher Nähe – Ärzte bei Hof (1450-1800)*. Innsbruck. Universität Innsbruck, 2021. **Pffor RF.** Aus den Kirchenbüchern der ev. Kirchengemeinde Großalmerode 1648 – 1753. Norderstedt: Books on Demand, 2004: 192, 286. **Pitzschki G.** Usus Et Vires Arcani Triplicati, Das ist: Gebrauch und Würckung der Wunder-Pillen. Georgi Pitzschki, Medicinæ Practici, Physici Blanckenburgensis, Oculist, Bruch und Steinschneider. 1666. www.deutsche-digitale-bibliothek.de/ **Prechtel JB.** Beiträge zur Geschichte der Stadt Freising. Freising: 1877, p. 25. **Röttinger H.** Die beiden Vogtherr. *Jahrbuch für Kunstwissenschaft*. 1927 Jan 1:164-84. **Seiler JR.** Alles mit Gott! Kund und offenbar sey Jedermänniglich, daß allhier ank[om]m[en] der wohlbekante Schweitzer-Artzt Nahmens Johann Rudolph Seiler, von Freyberg, Seiner Profession und edelen Kunst ... Oculist, Stein- und Bruchschneider, auch Leib- und Wund-Artzt, gebürtig aus dem Schweitzerlande, der Stadt Liechstatt ... : [Und bin anzutreffen allhier in Bautzen ...] 1694. www.deutsche-digitale-bibliothek.de **Siber JM.** Grundzüge einer Geschichte des ältern Medicinalwesens der Stadt Kitzingen. Würzburg. 1838: 44-5. **[Sontra]** Das „Henßelbuch“ der Stadt Sontra und die darin vorkommenden Familiennamen. *Der Deutsche Herold*. Berlin. Sep. 1908. p. 175. **Unkovskaya MV.** Brief Lives: a Handbook of Medical Practitioners in Muscovy, 1620-1701. London: Wellcome Institute. 1999. **Victor A.** Krafft und Würckung von dieser wunderbarlichen Medicina Universali. durch Adamus Victor, Oculist, Stein und Bruch=Schneider. 1650. https://www.deutsche-digitale-bibliothek.de/ **Vogtherr F.** Geschichte der Familie Vogtherr im Lichte des Kulturlebens.

Ansbach: Seybold, 1908: 20-23. **Wappler**. Der Oculist, Schnitt-, Leib- und Wundarzt Stephan von Sütphen, geb. 1601 in Goslar, gef. 1666 in Freiberg. Ein offener Brief an Herrn Staatsarchiv-Sekretär Gerhard L. Grove in Kopenhagen. Von Museumswart Bergamtsrat Wappler in Freiberg. In: Knebel K. Mitteilungen des Freiburger Altertumsvereins. Freiberg. 38. Heft. 1902: 86-98. **Watson** A. Art. V. Continuation of historical and critical remarks on the operations for cataract. By Alexander Watson, MD. Edinburgh Medical and Surgical Journal. 1846; 65: 57-68. **Weiss** N. Augenheilkunde in Graz. Spektrum der Augenheilkunde. 2013 Dec;27(6):258-68. **Whaley** L. Women and the Practice of Medical Care in Early Modern Europe, 1400-1800. Springer. 2011. p. 14. **Wibmer** CA. Medizinische Topographie und Ethnographie der k. Haupt-und Residenzstadt München. Kaiser; 1863. **Wichner** J. Beiträge zu einer Geschichte des Heilwesens, der Volksmedizin, der Bäder und Heilquellen in Steiermark bis incl. Jahr 1700. Mittheilungen des historischen Vereines für Steiermark. Graz; 1885;33:3–123. S. 20. **Wispelwey** B. Biographical Index of the Middle Ages. Boston: De Gruyter, 2008.

6. A Chronology of Oculists and Cataract Surgeons in Africa beyond Egypt (429-).

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Algeria (429-).

An undated Greek inscription from Caesarea, Mauretania, can be transliterated as C. Terentiu[s Demo]sthenes, who was an “*iatros ophthal[mikos]*”. The Romans controlled Caesarea from 44 to **429** CE (Gummerus 1932, p. 82, n. 313; Feugere 1988).

Honoratus Le Begg of England couched cataracts and, while voyaging to Spain to treat cataracts in a royal between 1677 and **1694**, was captured by a “Turks Man of War”, and held first in Algeria, and then in Egypt for 2 years, before returning to England (Leffler “British Isles” 2021).

In **1938**, Max Meyerhof of Egypt wrote that the traditional healers in his area were primarily Moors, or came from Algeria (Leffler, Klebanov 2020)

Tunisia (932-).

Isaac Israeli (c. 832 – c. **932**) was an oculist who immigrated to Tunisia (see Egypt).

Aayon Ibn Aayon (d.385 AH/995), known as Ibn Aayon, was an Arab Muslim *kahhal* who moved from Kairouan to Egypt with Al-Mu'izz li-Din Allah, perhaps when Cairo was founded in **969**. Ibn Aayon was known in Egypt during the caliphate of Al-Aziz Billah, wrote “Of eye diseases and their treatment”, and was mentioned by Usaibia (Wikipedia.org).

Mali (1653).

In 1653, a patient travelled from Dienné to Timbuktu where he was successfully operated for cataract (Leffler 2020).

Morocco (1659).

In **1659**, ambassadors from Morocco travelled to the Hague seeking an oculist to operate on the sultan’s cataracts, though their efforts were ultimately unsuccessful (see the Netherlands).

William Lempriere of Gibraltar was called to Morocco in **1789** to treat the cataracts of a Moroccan prince. He wrote of the African doctors “there are those who even couch for the cataract. I never had an opportunity of seeing the operation of couching performed in Barbary, but I was introduced to a Moor at the city of Morocco, who told me that he had performed it, and shewed me the instrument which he used for the purpose. This was a

¹ This chapter is cited: Leffler CT. A Chronology of Oculists and Cataract Surgeons in Africa beyond Egypt (429-). In: Leffler CT (ed.). Biographies of Ophthalmologists from Around the World. Ancient, Medieval, and Early Modern. 2024.

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piece of thick brass wire, terminating gradually at one end in a point not very sharp” (Pinkerton 1814, vol. 5 , p. 689).

Sudan (1857).

According to al-Tunisi (d. 1857), cataract couching was present in Darfur in the nineteenth century (Leffler 2020).

In Sudan in 1908, cataract couching was said by local healers to be performed metaphorically with a “golden needle”, though in reality it was a “narrow knife” (presumably the Arabic triangular-tipped needle), which was probably not of gold (Crichton-Harris 2009, p. 311).

References.

- Feugère** M, Künzl E, Weisser U. Les aiguilles à cataract de Montbellet (Saône-et-Loire). Contribution à l'étude de l'ophtalmologie antique et Islamique. Die starnadeln von Montbellet (Saône-et-Loire). Ein beitrag zur antiken und Islamischen augenheilkunde. Jarbuch des Römisch-Germanischen Zentralmuseums Mainz 1985;32:24-508.
- Gummerus** HG, Tiedeseura S. Der Arztstand im römischen Reiche nach den Inschriften. Helsingfors: Akademische Buchhandlung, Helsingfors, 1932: 82. **Leffler** CT, Klebanov A, Samara WA, Grzybowski A. The history of cataract surgery: from couching to phacoemulsification. Annals of Translational Medicine. 2020 Nov;8(22). **Leffler** CT, Schwartz SG, Peterson E, Couser NL, Salman AR. The first cataract surgeons in the British Isles. American journal of ophthalmology. 2021 Oct 1;230:75-122. **Pinkerton** J. A General Collection of the Best and Most Interesting Voyages and Travels in all Parts of the World. Vol. 5. London: Longman: 1814, p. 689.

7. A Chronology of Oculists and Cataract Surgeons in Persia (720 CE), Azerbaijan (1150) and Turkmenistan (1220).

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Persia (720 CE).

Arsaces was a “*medicus ocularius*” who practiced in Rome about 25 CE, and is believed to have a Greek or Persian name (see Italy).

Māsarjawaih Al-Basri studied in Jundishapur, lived in Basra about 717-720 CE, and wrote a book about the eye (see Iraq).

Māsawayh (or Māsūya) b. Yūḥannā originally lived in Jondayšāpūr, and was the father of Yūḥanna Ibn Māsawayh (born 777) (Sajjadi 1990). The college at Jondayšāpūr (Gundēšāpūr), was reputedly founded by Kōsrow I Anōšīrvān (531-79), and had a hospital (Sajjadi 1990). Māsawayh began as an unschooled pharmacist at the hospital, who ground the medicines. However, after 30 years, he had become an expert in medicines. He moved to Baghdad, where he became known for treating eye conditions, using bleeding and eyedrops (Usaibia 1971, p. 328-337). When Māsawayh moved to Baghdad, he treated the eyes of the vizier Faḏl b. Rabīʿ (757/8–823/4) and the vizier’s bodyguard (Sajjadi 1990).

ʿAlī Ibn Sahl Raban Al-Ṭabarī (d. 247 AH, 861) of Tabaristan in Northern Persia wrote a general medical text, “The Paradise of Wisdom” (Wafai 2016, p. 37-8), which mentioned cataract, but not its surgical treatment. His father was a prominent Jewish physician, but the author of “The Paradise of Wisdom” converted to Islam. Rabban Ṭabarī, was a pupil of Ḥonayn b. Eshāq (Sajjadi 1990), taught Al-Rāzī, and served in the court of several caliphs (Wafai 2016, pp. 37-8).

Yūḥanna Ibn Māsawayh (190-242 AH) (777-865) of Jundishapur, an oculist, and the son of Māsawayh, worked in Baghdad (see Iraq). His treatise *Daḡal al-ʿayn* (Eye disorder) includes Persian terms (Sajjadi 1990).

Abū Bakr Moḥammad Ibn Zakriyā Al-Rāzī (247 – 320 AH, 850–923) wrote a general medical encyclopedia, *Al-Ḥāwī*, or *Continens*. He worked at the hospital at Ray (Sajjadi 1990). He wrote several ophthalmic works, including “Treatise about the Surgical Management of the Eye Diseases” (*ʿElāj al-ʿayn beʿl-ḥadīd*) and “Treatise about Why the Pupil Constricts in Light and Dilates in Darkness” (Wafai 2016, p. 37-8; Sajjadi 1990). Rāzī designed instruments for treating fistulas of the tear duct, and used medicines to prevent blindness from smallpox (Sajjadi 1990). Rāzī wrote that in his day, mountebanks would

¹ This chapter is cited: Leffler CT, Salabati A, al-Sammarie M. A Chronology of Oculists and Cataract Surgeons in Persia (720 CE), Azerbaijan (1150) and Turkmenistan (1220). In: Leffler CT (ed.). *Biographies of Ophthalmologists from Around the World. Ancient, Medieval, and Early Modern*. 2024.

pretend to remove white specks from the eye, but “before they apply the instrument to that part, they put in a piece of fine rag into the eye and taking it out with the instrument pretend it is drawn immediately from the eye.” (Elgood 1970, p. 60-61).

In the Dēnkard (Book 8, Nask 18), a Zoroastrian compendium of the **10th century** (comprised of more ancient material), ophthalmologists (*dīdbān*) are mentioned:

“About what is the mode of producing seeing properly; and, when not seeing properly, the oculist (*dīdpān*) to entrust with it is he who informs people, who wish for it, how to extract the defect of sight; if not, the people go on and hurt, also the penalty for hurting, and whatever is on the same subject.” (West 1897, p. 77)

Abū Māher Mūsā b. Yūsuf Sayyār Šīrāzī, was an oculist who treated the eye disease of the Buyid prince ‘Azod-al-Dawla Deylamī (who kept court in Shiraz) before his accession in **949**, authored Amrāzal-‘ayn (Eye diseases), and taught Ebn Mandūya Eṣfahānī and Abu’l-Ḥasan Aḥmad b. Moḥammad Ṭabarī (Sajjadi 1990).

Abū Al-Ḥasan Aḥmad Ibn Moḥammad Al-Ṭabarī (d. after 366 AH, **976**) of Tabaristan in Northern Persia was trained by Abū Māher Mūsā and wrote al-Mo‘ālaja al-boqrāṭīya “The Hippocratic Treatments”, the first chapter of which covers ophthalmology (Wafai 2016, Sajjadi 1990). He served as private physician to Prince Rukn Al-Dwla Al-Bowayhi. He wrote that “The cataract is a thick humidity that affects the crystalline lens and makes it opaque” (Wafai 2016, p. 40-41).

Ebn Mandūya Eṣfahānī was trained by Abū Māher Mūsā and worked in the hospital at Isfahan before moving to the ‘Azodī hospital at Baghdad at the request of ‘Azod-al-Dawla (reign 949 to **983**). Ebn Mandūya wrote *Fī tarkīb ṭabaqāt al-‘ayn* (Eye structure) and *Fī ‘elāj entešār al-‘ayn* (Treatment of pupil dilatation).

Ammar of Cairo, active about **1000**, wrote that he had heard of a good recipe for blepharitis in Khorassan (Eastern Persia) (Meyerhof 1937, p. 36).

Abū ‘Alī Al-Ḥuṣayn Ibn Abdullah Ibn ‘Alī Ibn Sīnā (370–428 AH, 980–**1037**) was born in Bukhara. He wrote a general medical encyclopedia “Al-Qanun (The Dogma)” (Wafai 2016, p. 44).

Abu Ruh Moḥammad Ibn Manṣūr Ibn ‘Abdullāh Ibn Manṣūr Al-Yamani (or Al-Gurgānī) (**Zarrin-Dast**) (d. 480 AH, **1087**). Zarrin-Dast (The Golden Hand) was a Muslim from Persia who wrote “The Light of the Eyes” (Wafai 2016, p. 21-22). Zarrin-Dast’s full name suggested that he may have been from Gorgan, close to the Caspian Sea (Hirschberg 1982, vol. 2, p. 69). He complained that in his time “fools and women practiced ophthalmology and without learning the subject” and damaged the vision of many patients (Hirschberg 1982, vol. 2, pp. 37, 41). Zarrin-Dast cited the ophthalmic works of Galen, Hunain, Ibn Māsawayh, and Al-Rāzī (Hirschberg 1982, vol. 2, p. 48). His promise to present eye operations in a simplified manner and his own observations suggest that he was personally familiar with eye surgery (Hirschberg 1982, vol. 2, p. 69-71). His treatise apparently did not cite any Indian works, but it is the earliest surviving work from west of India to confirm

that cataract surgery was taking place in India. He attributed cataract extraction with a hollow needle to the Greeks and Romans (Hirschberg 1982, vol. 2, p. 69-71).

Zarrin-Dast's treatise was analyzed by an associate of Hirschberg in the early 20th century (Hirschberg 1982, vol. 2, pp. 69-71). Zarrin-Dast's manuscript is at Oxford, Calcutta, and also at the University of California, Los Angeles (Elgood 1951, p. 143; Richter-Bernburg 1978, p. 1). Recently, updated analysis of the text has been published in Iran (Sheikh Rezaee 2017), and a modern Farsi translation of Zarrin-Dast's treatise was published there (Jurjani 2013). We have obtained the cataract chapter from that work (chapter 8, section 26). These resources permit us to correct some misunderstandings in Hirschberg's analysis.

Zarrin-Dast wrote that there were three methods of performing cataract surgery. In all three methods, the procedure began by making an incision with a lancet ("*Nishtar*"), as became popular in the medieval period. Therefore, Zarrin-Dast's text cannot provide insight on the origin of cataract surgery using just a single needle, as described in antiquity by Celsus and in the *Susruta Samhita*.

The methods of cataract surgery, according to Zarrin-Dast were:

1. He credited the Iraqis with performing surgery with a knife or lancet ("*Nishtar*").¹
2. He credited the Hindus (Indians) with first using a knife "*Nishtar*" to make the incision, and then the solid "*Mahat*" needle to actually dislocate the cataract.
3. He credited the Greeks and Romans (*Yūnānī* and *Rumī*) with first penetrating with knife ("*Nishtar*") and then inserting the hollow needle ("*Mahat Majuf*"), after which the assistant sucks the lens material using hollow probe.

Zarrin-Dast's attribution of cataract aspiration to the Greeks and Romans is consistent with the medieval attribution of the method to Antyllus, who probably worked in ancient Alexandria. The two-instrument (lancet followed by needle) technique was mentioned by the medieval Arabic authors, and was performed by some Indian couchers in the 19th century. However, the single needle couching method (rather than two instrument technique) is described in the Ayurvedic works (the *Susruta Samhita*, and those by Vagbhata and Ugratitaya). It is interesting that Zarrin-Dast attributes the two-instrument technique to the Indians, rather than the Arabic authors.

The *Zakhira-i-Khwarazmshahi* written by Ismail Gorgani (1040-1136) has a detailed description of cataract surgery (book 6, chapter 2) which has been translated from Persian into English. This material appears quite similar to that of Ibn Isa (Elgood 1970, pp. 65-6).

Qoṭb-Al-Din Širāzi, Maḥmud b. Žiā'-al-Din Mas'ud b. Moṣleḥ, known also as 'Allāma Širāzi, al-Šāreḥ al-'Allāma, and Mollā Qoṭb and nicknamed **Abu'l-Ṭanā'** (1236-1311) was born in Shiraz. He studied medicine under his father at the Mozaffari hospital in Shiraz. He

¹ Hirschberg writes of this first method that Zarrin-Dast credited the Iraqis with performing cataract surgery "with a small knife (and the cataract needle)" (Hirschberg 1982, vol. 2, pp. 69-71). We now understand from reviewing the Farsi sources that the parenthetical expression was just added by Hirschberg. Hirschberg assumed that use of a needle must have followed, but Zarrin-Dast actually wrote that the procedure was just performed with one instrument, a lancet ("*Nishtar*").

replaced his father as the ophthalmologist at that hospital at the age of 14 years (c. **1250**), when his father died. He began studying astronomy and other sciences at the age of 24 years. He taught the works of Avicenna, and worked in Marāḡa, and Jovayn in Khorasan. After 1268, he worked in Qazvin, Isfahan, Baghdad, Konya in Anatolia. In 1282, he was sent by the Mongol Il-khan Aḡmad Takudār as an envoy to Egypt. He later worked in Syria, and died in Tabriz in 1311 (Anwar 2005; Elgood 1934, pp. 66-67). He wrote in 1283 that he everted eyelids, removed pterygia and pannus, but did not perform cataract couching (Savage-Smith 2022).

Neẓām-al-Dīn Qazvīnī was a Persian doctor who authored the ophthalmic treatise *Ketāb al-‘ayn* at the end of the 7th/13th century (Sajjani 1990).

The Jewish oculist **Najīb al-Dawla** was active at the Mongol court of Tabriz as the physician to Ghāzān Khān, and was a colleague of physician Rashīdal-Dīn, who was active after 1282 (Fischel 1953). Rashīdal-Dīn (c. 1247-1318) of Tabriz transferred medical knowledge from China, and wrote about knowledge of Iranians, Turks, Franks, and Mongols (Lev 2021, pp. 181-2). In **1300**, during the Mongol conquest of Syria, the oculist Najīb al-Dawla was among representatives who met the defeated Syrian leader. In 1305, he wished to convert to Islam, and was asked to prove his conversion by eating a dish of camel meat cooked in milk (Lev 2021, p. 96, 299).

Rashīdal-Dīn (c. 1247-**1318**) had trained in medicine and became a minister in the Mongol administration. He established a health facility in Tabriz, the Rab'-i Rashidi, also called a “health house” (“Dar-ush-Shafa”), with a medical school (Qajar p. 154). The staff included a physician, a surgeon, an oculist (*kaḡḡāl, jarrāḡ*), and two medical students (Chipman 2007). The annual salary was 330 dinars for the physician, 100 dinars for the oculist, and 40 dinars for the pharmacist (Chipman 2007). Two trainee-physicians (*mota‘allem*) received a 30 dinar salary, and were replaced every 5 years (Blair 2016). Students were also paid a 30 dinar salary (Blair 2016). The hospital housed 35 residents (Blair 2016), and had procedural rooms (Qajar 2005, pp. 154-6). Medical plants were grown in a garden (Qajar 2005, pp. 154-6).

Rashīd al-Dīn hailed from a Jewish family, but converted to Islam. He tasked his foundation and hospital with spreading knowledge to students from as far away as Egypt, India and China, as he described in a letter:

“Therefore we have sent, with the utmost celerity, letters and fast messengers to the scholars of the time and the learned of the epoch, saying, ‘Turn the bridle of [the course of] your setting-out towards us; for we would henceforth provide means for you to spread knowledge in peace of mind, and would arrange it so, that nevermore the dust of poverty may sit upon the forehead of your magnanimity, nor on the lap of your virtue.’

Now crowds of scholars and men of science arrive continually, and we do our best to keep them free of cares.

The Rabe Rasidi [i.e. Rasidi Foundation] for the establishment and construction of which we had already made plans and preparations at the time of your departure, is now completed.

We have given dwellings to four hundred scholars, theologians, jurists and carriers of tradition, in the street which is named 'The Street of the Scholar'; daily payments, pensions, yearly clothing-allowances, soap-money, sweet-money have been granted for them all.

We have established one thousand other students, who had come from all the possessions of Islam, in the hope of being educated under our protection, in the capital, Tabriz, and we have given orders for their pensions and daily pay to be granted from the tribute of Rum, Qostantiya [Istanbul] the Great, and Hindustan, in order that they may be comfortably and peacefully occupied in acquiring knowledge and profiting people by it. We have prescribed, too, which and how many students should study with which professor and teacher; and after ascertaining each knowledge-seeker's aptness of mind and capability of learning a particular branch of the sciences, either the fundamental or the derivative, the intellectual or the transmitted, we have ordered him to learn that science. To all these students, residing in the Rab'e Rasidi or settled in the city of Tabriz, we have given orders to frequent every day the colleges which we or our sons have founded.

Fifty skilled physicians who have come from the cities of Hindustan, China, Misr [Egypt], and Sam [Syria], have all been granted our particular attention and favour, in a thousand ways; we have ordered that they should frequent our 'House of Healing' [hospital] every day, and that every one should take ten students capable of learning medicine under his care and train them in the practice of this noble art. To each of the opticians and surgeons and bone setters, who work in and are attached to our hospital, we have ordered that five of the sons of our servitors should be entrusted so as to be instructed in the oculist's art, in surgery and manipulative surgery. For all these men whose profession is to treat and tend sick or wounded persons, or a diseased part of the body, medically, curatively, or therapeutically, and to endeavour to cure them of the disease, we have founded a quarter behind our hospital and near the park Rasidabad; their street is called 'The Street of the Healers.'" (Taylor 1939, pp. 39-40)

According to one account, 500 teachers and 6000 students attended the facility for free (over an unspecified period of time) (Qajar 2005, pp. 154-6). The library had 600,000 books. In addition to surgeons, the hospital had oculists ("Khekhali") (Qajar 2005, pp. 154-6).

Moḥammad b. Moḥammad 'Arab wrote the ophthalmic treatise *'Elm ḥekmat al-ʿayn* dedicated to the Il-khan Abū Saʿīd (reign 1317–1335), who kept court at Soltaniyeh (Sajjani 1990).

Islin from Nehawend (Nahavand?) was "a superb cataract surgeon and excellent teacher". He developed a severe headache and bilateral cataracts. His students gathered around him and comforted him, until he died. This story was told related by Shadhili of 14th century Egypt (Hirschberg 1985, vol. 2, p. 41).

Amirdovlat Amasiati (1420-1496) of Amasia, who performed cataract surgery, is believed to have travelled around Persia in the 1450s, as he frequently mentioned Shiraz, and other cities such as Khorasan, Gurgan, Isfahan, and Tabriz (Vardanian 1999, pp. 33, 88, 101).

The Persian poet ‘Abd-al-Raḥmān Jāmī (1414-**1492**) mentioned spectacles, which he called “European glasses” (*šīša-ye farangī*) (Sajjani 1990).

Persian physician Bahā’-al-Dawla Moḥammad Ḥosaynī Nūrbakš Ṭaraštī (active c. **1500**) covered ophthalmology in his *Kolāṣat al-tajāreb* (Compendium of clinical tests).

Šams-al-Dīn ‘Alī Ḥosayn Jorjānī translated into Persian ‘Alī b. ‘Īsā’s *Taḍkeratal-kaḥḥālīn* (Biography of the ophthalmologists), and added a critical appendix, at the request of the sultan of Golconda, Moḥammad-‘Alī Qoṭbšāh (reign **1580-1611**). This entity ruled over the Deccan plateau in Telangana. The translation was popular for ophthalmic teaching in the Safavid period (Sajjani 1990).

The Persian ophthalmologist ‘**Ayn-al-Ḥaqq Gīlānī** (d. 1003 AH, **1595**) settled in Burhanpur, in Madhya Pradesh (Faruqi 1989, pp. 555-7). The city had a quarter (Sindhapura) in which many families from Gujarat and Sind settled.

The Persian ophthalmologist and poet, ‘**Ayn-al-Molk Širāzi** (d. **1595**), who used the pseudonym Dawā’i, served as the ṣadr of Bengal under Jalāl-al-Dīn Akbar (reign 1556-1605) (Speziale 2009). ‘Ayn-al-Molk Širāzi wrote *Fawā’ed al-ensān* (comp. 1595), which is a work on materia medica in verse (Speziale 2009).

Muhammad Bakr (or Mohamed Baqir) was an oculist attached to the court of Shah ‘Abbas, and was the son of physician ‘Imad-ul-Dīn ibn Mas’ud. The oculist composed a book on ophthalmic treatment which the Shah carried when he left Ispahan in 1602 to attack Tabriz. This work, entitled *Risala-i-Kahhali*, covers collyria, salves, syphilis, and eye wounds and ulcers (Elgood, *Safavid Surgery*, 1966, p. 6; Elgood 1951, p. 287; Elgood 1970, p. 68-9).

A portrait of the miniaturist Reżā ‘Abbāsī (d. **1635**) shows him wearing spectacles (Sajjani 1990).

Father Raphael du Mans (1613-1696) offered a satirical description of the oculists who aspirated cataracts in Isfahan, Persia, in **1660** (Du Mans 1890, p. 178).

Evliya Celebi (1611-1682) wrote that in Tabriz there were "excellent doctors, surgeons, and oculists" (Celebi 1846, p. 136)

Between 1676 and **1678**, John Fryer, the physician in the English East India Company’s service, noted that spectacles were coming into use in Persia (Sajjani 1990).

Between the 16th and 18th **centuries**, Moḥammad-Bāqer b. ‘Emād al-Dīn, a Persian eye specialist, wrote a treatise on ophthalmic medications (Sajjani 1990).

The *Āyīna-ye eskandarī* was a Persian ophthalmic treatise written for Eskandar Khan, who may have been the brother of Karīm Khan Zand (reign 1751-1779) (Sajjani 1990).

The *Resāla-ye atābekīya* was a Persian treatise on the ophthalmic anatomy, diseases, and medications, dating from the Zand period (1751-1779) (Sajjani 1990).

In the 1850s, Dr. Polak wrote Persian works on the anatomy and diseases of the eye (Elgood 1934, p. 74).

Azerbaijan (1150).

Omar Kafi ad-Din was born in the city of Shemakha in Shirvan (c. 1080-1150). He founded a medical center which trained doctors in the nearby village of Melgam at which oculists ("qekhali") worked (Qajar 2005, pp. 82-83).

Turkmenistan (1221).

In 1221, in Ourguendj (Gurganj) in present-day Turkmenistan, Ghenghis Khan himself needed the services of an "oculiste" to treat his granulations (presumably from trachoma). The oculist, Zin Zabban (or Rabban), had an Aramaic name, which would suggest that his family was either Christian or Jewish (Cahun 1896, pp. 313-4). This "ugly and disagreeable" oculist had his sights on the most beautiful singer in the defeated sultan's harem. The singer had spent several days with a defeated vizier, and she refused to go with the oculist, who duly reported her unwillingness to Ghenghis Khan. The latter had the vizier summoned, berated him, and withdrew his protection. Then, "he [Khan] rid the earth of his impure blood" (Cahun 1896, pp. 313-4). In another version of the story, Ghenghis Khan took the beautiful woman for himself and had the oculist killed for being unable to convince her to submit (Elgood 1934, p. 64-65).

References.

- ‘Ammār ibn ‘Alī Mawṣilī, Meyerhof M. Las Operaciones de catarata ‘e ‘Ammar i’n ‘Alī al-Mawsili. Barcelona: Laboratorios del Norte de Espana, 1937:52-3. **Anwār** SA. Qoṭb-Al-Din Širāzi. Encyclopaedia Iranica. 2005. www.iranicaonline.org
- Blair** SS. Rab’-E Rašidi. Encyclopædia Iranica. 2016. iranicaonline.org **Cahun** DL. Introduction à l’histoire de l’Asie: Turcs et Mongols, des origines à 1405. Paris: Colin, 1896: 313-4. **Celebi** E, Hammer-Purgstall J (trans.). Narrative of travels in Europe, Asia and Africa, in the seventeenth century. London. Oriental translation fund. 1846. **Chipman** L. Islamic pharmacy in the Mamlūk and Mongol realms: Theory and practice. Asian Medicine. 2007 Oct 16;3(2):265-78. **Du Mans** R, Schefer C (ed.). Estat de la Perse en 1660, par le P. Raphaël du Mans,...publié avec notes et appendice par Ch. Schefer. Paris: Leroux, 1890: 178. **Elgood** C. Medicine in Persia. New York: Paul B. Hoeber. 1934. **Elgood** C. A Medical History of Persia and the Eastern Caliphate: from the earliest times until the year AD 1932. Cambridge: Cambridge University Press. 1951. **Elgood** C. Safavid surgery. Symposium Publications Division, Pergamon Press. 1966. **Elgood** C. Safavid medical practice: or, the practice of medicine, surgery and gynaecology in Persia between 1500 AD and 1750 AD. London: Luzac; 1970. **Faruqi** NA. Burhanpur. In: Encyclopaedia Iranica. 1989; Vol. IV, Fasc. 5, pp. 555-557. **Hirschberg** J, Blodi F, Wafai Z (trans.). The History of Ophthalmology. Vol. 2. The Middle Ages; The Sixteenth and Seventeenth Centuries. Wayenborgh. 1985. **Hüner** NI. Travelling within the Empire: Perceptions of the East in the historical narratives on Cairo by Mustafa Āli and Evliya Çelebi. In: Agai B (ed.). Venturing beyond borders. Reflections on genre, function and boundaries in Middle Eastern travel writing. Würzburg. Verlag Würzburg. 2016: pp. 77-100. **Jurjani Yamani [Zarrindast]**, Beykhabapoyr (trans.). Nur Al-uyun (Nouroloyoun). Tehran: Miras-e Maktoob. 2013. [in Farsi] **Kahl** O. The Sanskrit, Syriac and Persian sources in the Comprehensive book of Rhazes. Leiden: Brill, 2015: 44-6. **Leffler** CT, Schwartz SG, Peterson E, Busscher J. Cataract couching and the goat's eye. Acta ophthalmologica. 2018 Nov;96(7):755-6. **Leffler** CT, Samara WA, Hadi TM, Salman A, Khan FA. Glaucoma in the Medieval Arabic World. In:

Leffler CT (ed.) *The History of Glaucoma*. Wayenborgh. 2020: 47-73. **Lev E.** Jewish Medical Practitioners in the Medieval Muslim World. 2021. Edinburgh University Press. **Qajar C.** The Famous Sons of Ancient and Medieval Azerbaijan. [2005?]: 82-83. **Richter-Bernburg L.** Persian medical manuscripts at the University of California, Los Angeles. A descriptive catalogue. Malibu: Undena Pub. 1978. **Sajjādi S.** Čašm-Pezeškī, ophthalmology. *Encyclopaedia Iranica*. 1990. Vol. V, Fasc. 1, pp. 39-44. **Savage-Smith E.** Could Medieval Islamic Oculists Remove Cataracts? The views of a fourteenth-century Egyptian sceptic. *Suhayl. International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation*. 2022 Dec 21:7-41. **Sheikh Rezaee MR, Jokar A, Moallemee M.** A Review on Cataract in the Cannon of Medicine and Nur-al-uyun. *Journal of Mazandaran University of Medical Sciences*. 2017 Jul 10;27(150):223-31. **Speziale F.** India xxxiii. Indo-Muslim Physicians. 2009. *Iranicaonline.org* **Taylor OE.** Architecture of Northwest Persia Under the Il-Khan Mongols. PhD Thesis. University of Chicago. 1939: 39-40. **(Ibn Abi) Usaibia, Kopf L (trans.)** History of Physicians. 1971. *Tertullian.org* **(Aḥmad ibn al-Qāsim Ibn Abī) Uṣaybi‘ah, Cockrell HS.** Anecdotes & antidotes: a medieval Arabic history of physicians: a new translation. New York: Oxford University Press, 2020. **[Usaybia] Ibn Abī ‘Uṣaybi‘a.** History of Physicians. Translated from the Arabic by Dr. L. Kopf in 1971. With partial annotations by Dr. M. Plessner. Paris: Alessi, 2017. **Vardanian SA.** Amirdovlat Amasiatsi: A Fifteenth-century Armenian Natural Historian and Physician. Academic Resources Corp; 1999. **Wafai MZ.** Ophthalmologists of the Medieval Islamic World. International Congress on History of Medicine in Muslim Heritage. October 2016. **Wafai MZ, Hassan Husni At-Tayyan H (ed.).** Al-Kahhalun Al-‘Arab wal Muslimun wa Atharuhum fi Tatawir Tib Al-Uyun. [Contributions of Arab and Muslim Oculists to Ophthalmology]. Kuwait. 2018 (1439 AH). Al-Majlis Al-Watani Lil Thaqafa wal Funoon Wal Adab [The National Council for Culture, Arts, and Literature]. **West EW (trans.).** Denkart Book 8. Contents of the Nasks (Ancient canon of Zoroastrianism). Sacred Books of the East. Vol. 37. Oxford Univ. Press. 1897: 77.

8. The Early History of Ophthalmology in Poland (1330s to 1800).¹

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In the 1330s, a French doctor was summoned to Wroclaw to treat the eyes of King John of Bohemia (McVaugh 2001). When he proved incompetent, he was thrown into the Oder River (McVaugh 2001). Then a Muslim practitioner was invited to treat the king's other eye at Prague, and harmed other patients. The doctor had extracted a promise of safe-conduct in advance (McVaugh 2001). In 1339, the king travelled to Montpellier, where he was given medical treatment by Guy de Chauliac (McVaugh 2001). The king returned blind to Prague, and died at the Battle of Crecy (McVaugh 2001).

In 1354, the Jewish oculist Abraham of Schweidnitz practiced in Breslau (Koren 1973, p. 6). He was listed in the register of Jews as "Abraham, ougenarczt" (Baas 1923).

In 1400, "magister Konrad , okulista" was sent from Gdańsk to Duke Vytautas by the Grand Master of the Teutonic Order (Sokol 1958, p. 226). The eye doctor sent to King Vytautas in 1400 was referred to as *ogenarczte* (Capaite 2013). King Michał Korybut Wiśniowiecki gifted Konrad with several oaks from the Puck forests, although the Gdańsk City Council asked the king to dissuade the recipient from actually taking the trees. Konrad was also repeatedly called to Malbork. In 1409, he treated an ophthalmic ailment of the Grand Master of the Teutonic Order, Ulrich von Jungingen (Sokol 1958, p. 226-7), and was described as *ogenarzte*. (Capaite 2013).

In March 1401, an eye doctor (*ogenarzt*) was sent to King Vytautas (Capaite 2013).

In 1404, ten marks were given to Vytautas' baker, who was going to see an eye specialist (*augenarzte*) in Torun (Capaite 2013).

In 1422, a "medicus" "without the title of doctor" named Jan (or Johann) was contracted to restore the vision ("*ratione reformationis visus*") of a woman in Krakow. Jan was offered two marks for payment by the husband, in addition to an open-mantle cloak lined with fox fur worth 3 marks by the wife. If the treatment failed, the physician had to bear the cost of the medicine that the patient had purchased and return the two Polish marks as a penalty (Bednarski 1928, p. 12; Lachs 1921).

In 1426, King Jogaila asked the Elbing (Elblag) *komtur* to send an eye specialist ("medicus oculista", "medicus eculista") to congresses in Nieszawa and Toruń (Capaite 2013). This doctor has been identified as "meister Heinrich den ougenarczt" (Capaite 2013).

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In the 15th century, Marcin (Martinus), a Hungarian, ophthalmologist from Kassa (Košice) – was active near Krakow in Kaszow (Bednarski 1928, p. 13).

In 1430, Mikołajem, an oculist from Poznań, was sued by an unsatisfied patient, who claimed the oculist ruined/destroyed his eyes with drops and called him a “son of wickedness”. He came to the clinic and was taken in because he was holding back tears. He agreed to pay 6 groszy for treatment with powders, ocular ointments, or drops. (Bednarski 1928, p. 13).

In 1441, Master Piotr, an oculist from Poznań sued a priest whose eyes he had treated, for lack of payment of two Hungarian florens. Upon hearing of this the priest gave the money to another priest who would give it to Piotr when the first priest’s eye healed. After this, Piotr said he would look after the priest until the celebration of St. Michael. (Bednarski 1928, pp. 13-14).

In 1457, resident lithotomists (*steynsneider*) and ophthalmologists (*ougen ortczyeyen*) could be accepted into the surgeon’s guild with the consent of the Gdańsk city council (Sokol 1958, p. 227).

In the mid- to late 1400s, after studying in Italy, Jan Stanko (Johannes Stanconis, 1430–1494) of Breslau, had served as the court physician to Casimir Jagiellończyk (Jagellonian, 1427–1492). After 1470, Jan Stanko was a professor of medicine at the Academy of Krakow, and, in that city, “operated on [historian] Jan Długosz (1415–1480) for cystolithiasis and eye disease” (Zajęczkowski 2014).

In 1502, Abraham was a Jewish oculist who practiced in Novy-Sancz (Koren 1973, p. 6). Abraham the “*oculista*” was also identified in Kraków in 1504, 1507, and 1514 (Lachs 1921, Koren 1973, p. 5, Bednarski 1928, p. 69).

Eliasza was a Jewish oculist (*oculorum medicus*, “*Helias Judaeus oculista*”) who studied abroad, practiced in Krakow from 1514 to 1522. In 1514, Elias agreed to treat the cataract of Bogdan Sopje in Kraków, but would not receive any payment if the treatment failed. Elias “studied beyond the border” and died in his old age in Lemberg (Lviv) (Bednarski 1928, p. 69; Lachs 1921).

In 1538, Michał Gallus of France, an expert in removal of cataracts and bladder stones, settled in Gdańsk (Sokol 1958, p. 228).

Melchior Zacher, the surgeon to King Sigismund III (1566-1632), focused largely on ophthalmology (Bednarski 1928, p. 69; Lachs 1921).

In 1568, Doctor Czeszer successfully treated the pain and swelling of the eye of Anna of the Jagello family, according to a letter to her sister Sophie, a Braunschweiger princess (Lachs 1921).

On June 10, 1570, Jacob von Hambergen, a wealthy native of Gdańsk, was granted citizenship there, and was registered as a hernia operator (Sokol 1958, p. 228). In 1570, Stephan von Sütphen (the patriarch of a family of oculists), born about 1550, trained as an oculist and surgeon in Danzig under this Jakob von Harnbergen, and then moved to the

Fläming region of Germany (see chapter on Germany, Henning 1989). In 1594, Jerzy Fuhrmann, a native of Susz, complained that after an eye injury he was referred by the surgeon Joachim Hermens to this “meister Jacop dem steinschneider” who lived at Targ Drzewny (Sokol 1958, p. 228).

Probably by 1572, and certainly by 1574, Christoff Schwabe (Krzysztof Schwabe) from “Franckstein, in Schlesien” (a Silesian town in the district of Boroszló), had begun practice in Kremnica. In 1574, Schwabe received the certificate from the Körmöcbány (Kremnica) council for hernia operations and successful eye surgeries (Gyula 1929, pp. 84-85; see chapter on Slovakia). In 1586, Schwabe settled in Danzig (Gdańsk) (Sokol 1956). Krzysztof Schwabe taught his son Daniel, and Jan Rurock (see below). At this time, guild surgeons did not perform ophthalmic and urologic procedures, as evidenced by the fact that they would be present as spectators for surgeries performed by dedicated oculists and lithotomists, such as Schwabe (Sokol 1957, p. 101). On Oct. 4, 1586, Krzysztof Schwabe obtained citizenship in Gdańsk, where he elected to reside (Sokol 1958, p. 230). He was described in early Gdańsk documents as “Schwabe Oculist”, “Christoff Schwab Bruchschneider”, and “Stein- und Bruchschneider, Oculist, Leib- und Wundarzt” (Sokol 1958, p. 230). He performed lithotomy early in his Gdansk practice. In 1590, Schwab and a doctor named Zygmunt Uberbach treated the ophthalmic ailment of Bertram Meidurg's wife, receiving a fee of 40 Hungarian florins and a horse. However, the husband demanded a refund, presumably because the family was unsatisfied (Sokol 1958, p. 232). Schwabe was noted to be famous in a certificate from March 4, 1597 in Gdańsk regarding the training of Jan Rurock, who had been Schwabe's student (“*celebris et artificiosus Christophorus Schwabe*”), and also in 1635 when his son Michael Schwabe surgically removed a patient's stomach a knife which had been swallowed (“*Christophoro Schwabe oculo et lithotomo celebri*”) (Sokol 1958, p. 233). Schwabe died in 1608 (Sokol 1958, p. 234).

Georg Bartisch practiced in Brieg (Brzeg) in 1578, in Lignitz (Legnica) in 1579, and in Neisse (Nysa) and Breslau in 1580 (Bartisch 1995, preface; Zajączkowski 2014).

On April 17, 1584, guild elders in Danzig took from the oculist Jonasz Moller (Jonaszowi Mollerowi) a box of medicines because they believed his practice violated the statutes, and Moller therefore filed a complaint against the elders (Sokol 1957, p. 166). Thus was originated a 13-year legal dispute between Moller and the guild (Sokol 1957).

In 1586, the 17-year-old Jan Rurock (1569-1639), who came from Namysłów in Silesia, began his education with Krzysztof Schwabe, just as the latter settled in Gdańsk. Rurock continued training with Schwabe for 12 years, until on March 4, 1597, Rurock received a certificate of his training (Sokol 1958, p. 233). The 1597 certificate noted that Rurock had learned to cut for stones and hernias, and of curing glaucoma (*glaucomatis medendi*) (Sokol 1958, p. 244). It is interesting that the only ophthalmic condition mentioned was “*glaucomatis*” rather than the typical Latin terms for cataract (*suffusio, cataracta*). Rurock might have spent some time away from Gdańsk, as we next hear of him there in 1622, when he was known to be affiliated with the Church of the Virgin Mary (*kościół Panny Maryi*) in Gdańsk (Sokol 1958, p. 236). At the start of 1624, Jan Zawisza, the voivode of Vitebsk, asked the Gdańsk City Council to suggest an ophthalmologist to treat him, and

they proposed Jan Rurock (Dominum Joannem Rurock *doctorem oculistam*) (Sokol 1958, p. 234-5). Rurock found that Zawisza's cataracts were not yet mature (*maturitatem*), and promised to return in October of that year (Sokol 1958, p. 234-5). In July 1630, Rurock asked the Gdańsk City council to forbid competing healers (*Arzt, Steinschneider, Okulist, Salbenkramer Waldleute, Zahnbrecher, Wurmkrämer*) to practice in the city outside the time of the Dominican fair (Sokol 1958, p. 235). However, the city council refused this request, and, in fact, licensed a competing ophthalmologist named Spindeler that same month (see below). Rurock died in March 1639 (Sokol 1958 p. 236). A citation of Rurock's son remembered that Rurock was "Dno Johanne Rurock *chirurgo ac ophthalmico celeberrimo*" (Sokol 1958, p. 236).

In 1587, in Toruń, we find reference to "Hans Hirndorff, stein und bruchschneider, oculist, leib und wundarzt"(Nowak 1984). Hirndorff was ultimately forced to leave the city because the city physicians objected to his practice (Nowak 1984).

In Gdańsk, during the 16th and 17th centuries, itinerant healers did not need to get permission from the City Council to treat patients during the Dominican fair, which lasted from August 5 to September 2 each year (Sokol 1958, p. 228).

In 1600, Michał Keller, an "Okulisten , Stein- und Bruchschneider , auch Leib- und Wund-arzt" migrated from Gdańsk to Königsberg to practice. The Königsberg City Council sought an opinion from the Gdańsk authorities about Keller's qualifications. As the letter was dated Sep., 22, 1600, it seems Keller moved along just as the Dominican fair ended in Gdańsk (Sokol 1958, p. 228).

In 1602 and 1607, oculist Grzegorz Buzau (or Bazau), of "Framburg" (Frombork) performed cataract surgery on at least 2 patients in Krakow (Bednarski 1928, p. 69-70). He was described in the archives as:

"Gregorius Buzau de Framburg [sic] *Prussiae ophthalmicam profitens artem...*"

"*ophthalmicae disciplinae professor*"(Lachs 1921).

The use of the verbs *avulsa* and *dextraxit* has led Lachs (1921) to speculate that Gregorius may have been extracting cataracts:

"*Postquam videlicet...Gregorius Buzau medicam manum sibi (dem Patienten) adhibuit cartilagine hac avulsa, lumen oculorum revelavit et restituit...*"

"*qui ipsi (scil. Aegroto) cartilaginem seu ut vulgo vocant cataract ex oculis dextraxit, ita quod nunc tantam copiam luminis habet, ut homines dignoscere, viamque solusmet sine comite...capere...potest*"

"*cartilagine prius avulsa et abiecta*"

"*optimeque iam absque ullo impedimento et rem quamlibet oblatam dignoscere et nemine ducente incedere posse...*"

However, we consider it more likely that the archivist did not understand the purpose of couching, or that a superficial growth removed was not equivalent with a cataract. The

record does clarify that the test of success was the ability to guide oneself around obstacles, rather than the ability to read (Lachs 1921).

In 1605, Jakuba Steblera (or Jakób Stebeler), described as an ophthalmologist (*ophthalmista, artis ophthalmicae magister*) was summoned from Wrocław to Kraków and successfully performed a cataract operation on Zofia Wierzbiana (Bednarski 1928, p. 70; Lachs 1921; Sokol 1958, p. 234). In 1607, Steblera settled in Gdańsk as an ophthalmologist (Sokol 1958, p. 234).

In 1607, Albert Johann Arends (or Arens) from Elbląg, a “Stein- und Bruchschneider, Chirurgus, Oculist und Wundtartz” received certificates for treating 4 blind people in Hildesheim (Becker 1902, p. 870-2; see Germany).

In 1614, oculist Jan Gizebert (or Johann Giesevert), probably of German origin, asked the Krakow authorities for “a certificate of good healing of eye disease”, i.e. a certificate noting he was good at healing eye disease, because he successfully treated a woman who had been blind for 10 years and could now walk safely on her own to wherever she needed. (Bednarski 1928, p. 70).

Jacob Winckler, active in Vienna between 1614 and 1628, was an “Oculist, Stein: un[d] Bruchschneid”, from that city, who treated cataracts (“Staar”), and advertised that he was licensed in “Türckey”, Poland, and Hungary (see Austria and Germany).

Between 1628 and 1632, Dionysius Fischer, an itinerant surgeon and oculist from Meissen, practiced in an itinerant fashion, with three 2-horse carriages for his assistants and medicines, and Silesia was one of his destinations (Brennsohn “Livlands” 1905, p. 20, 159-60; see Latvia).

In 1630, “Mester Baltser Kemenes” from Prindslauff (Prinzlaff near Danzig) worked as an oculist, lithotomist, and wound surgeon in Stavanger (Reichborn-Kjennerud 1985, pp. 140).

On July 17, 1630, the Gdańsk city council granted citizenship to Jerzemu Spindeler, an oculist and lithotomist from Nysa in Silesia (Sokol 1958, p. 235).

A certifiacte from Gdańsk from Dec. 2, 1631 stated that Jan Fabritius, an ophthalmologist and lithotomist, successfully performed cataract surgery (Sokol 1958, p. 236). The surgeries were performed in public, in front of a large crowd. Fabritius’ procedure, performed in the first half of November, was probably using the right of travelling healers to practice during the indulgence period of St. Martin’s Day (Sokol 1958, p. 236). Fabritius also performed the earliest known operation for cleft lip in Gdańsk, but apparently did not remain there long (Sokol 1958, p. 236).

Szteynor Jan served in the court of Sigismund III, and from 1633, that of Władysław IV. Szteynor was experienced in “*arte Medicinae Chirurgiae et Ophtalmiae*”. He was not called a “medical doctor” by “the [log of] the king’s privileges” because he was most likely a surgical oculist. (Bednarski 1928, p. 70).

Daniel Schwabe, born in 1592 in Gdańsk to the above-mentioned Krzysztof Schwabe, learned the trade of oculist and surgeon from his father. On July 9, 1635, Daniel performed

the world's first stomach incision in Königsberg and removed a knife that had been lodged for six weeks. The patient recovered, and King Władysław IV rewarded the skilled operator (Sokol 1956; Sokol 1960).

On Feb. 28, 1632, Ernest Kleinow, a doctor from Lübeck, received a certificate from the mayor of Gdańsk for his healings. Kleinow had performed several cataract operations, including one on a carpenter who had reduced vision for 11 years (Sokol 1958, p. 236-7). Kleinow was granted the right to remain in Gdańsk and practice there as an oculist and lithotomist in 1633 (Sokol 1958, p. 237)

By 1641, Stephen von Sütphen senior of Germany is thought to have practiced in Breslau (Henning 1989).

In 1642, Steiner, known as the “*Danziger oculisten*”, made eye balms for Count Jakob de la Gardie (d. 1652), as his eyesight failed, at the Makalös Palace in Stockholm (Axel-Nilsson 1984, pp. 40, 48).

In September 1645, the “*Oculist, Bruch- und Steinschneider*” Johann Georg Günther requested permission to practice in Frankfurt for 6 months. He was born in Dresden, and lived in Liegnitz in Silesia. He had certificates from Emperor Ferdinand II, from the dean of the medical faculty in Vienna, and from Nuremberg, where he had recently practiced. Günther passed an examination of several Frankfurt physicians, but, given negative testimony from patients, he was not permitted to continue practicing in Frankfurt (Helm 1965, p. 27-8).

In 1653, Daniel Lader, an oculist of Gdansk, practiced in his home city. Lader might be a relative of Jan Lader, who was punished by the surgical guild for practicing in Gdańsk without qualifications in 1600, and died at the age of 1630 in 86 (Sokol 1958, p. 237). The oculist Daniel Lader had practiced in Reval in 1638 and 1639, when town physician Gebhard Himself complained that Lader had interfered with his treatments and insulted him in the public market (Brennsohn “*Estlands*” 1922, p. 254). On May 31, 1645, Lader received a certificate indicating that he had practiced in Riga for several weeks (Brennsohn “*Estlands*” 1922, p. 254). On October 9, 1645 and on May 21, 1650, Lader received certificates from the city council of Reval stating that he had spent several weeks there offering his medicines for sale, served many people, and conducted himself well (Brennsohn “*Estlands*” 1922, p. 254). From 1647 to 1675, Daniel Lader “*oculist et epratur medicinæ*” from Danzig practiced in Stockholm intermittently (Lindberg 2017, p. 39). In 1653, Lader returned to Gdańsk, and practiced there as an ophthalmologist. In Feb. 1653, Daniel Lader operated on the widow of a needle-maker, who supposedly did not even have light perception preoperatively, and who regained her sight completely (Sokol 1958, p. 237). In April 1653, Lader restored the sight of a man. On June 16, 1653, a peasant from Junkendorff (Junkersdorf?) travelled to Lader to have bilateral cataract surgery, which was performed successfully in the presence of many witnesses, including three pastors (Sokol 1958, p. 237). A ship’s captain, living at the Fish Market, who had been suffering from cataracts for two years, was first examined by Michała Rurocka, the physician son of Jan Rurock, then examined by Kleinow, who postponed the operation for two years due to immaturity of the cataract, and then finally by Lader, who operated on the captain in

August 1653 (Sokol 1958, p. 237). A 60-year-old glazier had cataracts in both eyes was operated on by Lader in August 1653 (Sokol 1958, p. 237). Witnesses stated that Lader performed cataract surgery with a needle (“wie das Fell mit der Natel ist herunter gezogen worden“, “und das Fel vom Auge abgezogen worden...”, “...der durch Mittel der Natel in beiden Augen die Falle gar kenntlichen vom Apfel niedergeholet...” (Sokol 1958, p. 238). On July 9, 1660, Lader received a passport from Riga, where he had been practicing, to Gdansk (Brennsohn “Estlands” 1922, p. 254). In 1663, Daniel Lader appeared in Reval, and asked the city council’s permission to once again practice his art there. Lader noted that he would not compete with any local healers, that he would help poor blind people, and that there was no other oculists in Reval.”(Ehstländische IV(3) 1890, p. 261) Lader stated he did not compete with local barbers because he did not accept open wounds or open any veins (Brennsohn “Estlands” 1922, p. 254). On Jan. 14, 1664, he asked the mayor and city council of Reval to attend a cataract operation he planned to perform on an old blind person (Brennsohn “Estlands” 1922, p. 254). The placard of King Carl XI of Sweden against illegal trade in medicines dated July 28, 1683 noted that oculist Daniel Lader and his sons were not permitted to sell ointments, waters, and medicines which were not relevant to eye diseases (Ehstländische IV(3) 1890, p. 261; Brennsohn “Estlands” 1922, p. 254). Lader practiced in Reval in 1683 (Brennsohn “Estlands” 1922, p. 395). In 1685, the Reval city physician Happel argued that “Sieur Daniel, Prof. Chirurgieae” had committed malpractice (Brennsohn “Estlands” 1922, p. 254).

About 1660, the surgical oculist Wryt Frederic, of German descent, practiced in Krakow (Hirschberg 1991, vol. 10, p. 211; Koren 1973, p. 70).

Before the fall of 1660, Daniel Krohn (d. 1698) of Gdańsk was trained as an “Oculist, Stein- und Bruchschneider und Wundarzt” at “Kaiserlichen und Königlichen Carolo Ferdinandischen Universität der Stadt Prag [Prague]” (Sokol 1958, p. 238). On Sep. 4, 1660, Krohn asked for clinical privileges from the Gdańsk mayor, having already cured three citizens of the city (Sokol 1958, p. 238). Krohn operated on a cleft lip, and performed cataract surgery on two other patients, and had probably done so during the Dominican fair, when clinical privileges were not required (Sokol 1958, p. 238). On Oct. 6, 1667, the Gdańsk authorities warned him not to post leaflets advertising his practice (Sokol 1958, p. 238). Krohn and his son Adrianem Samuelem were granted privileges by King Jana III Sobieskiego as “opthalmicus, lithotomus et chirurgus Gedanensis” in Gdańsk in a certificate dated October 14, 1677 (Sokol 1958, p. 238-9). Daniel Krohn and his son Adrian visited Sweden in 1671 and 1683. In 1677, Daniel Krohn of Gdańsk and his son, Adrian Samuel, were authorized by King Jana III to practice lithotomy, surgery for cleft lip and hernia, and ophthalmic surgeries for cataracts and trichiasis (catharactae medella pelliculae oculorum detractio, ciliorum excrescentium sanatione,) (Sokol 1958, p. 245). In 1693, “Danielowi Krohn, gdańskiemu okuliście” was permitted by the mayor of Gdańsk to construct a stall where he, and his wife and children after his death, could sell goods for 20 years (Sokol 1958, p. 240). Krohn subsequently successfully removed a tumor stretching from the ear to the cheek. Krohn died in Gdańsk on May 22, 1698 (Sokol 1958, p. 240).

On June 21, 1662, Daniel Rhode, an ophthalmologist and hernia surgeon, was granted permission to practice in Gdańsk (Sokol 1958, p. 240).

In 1664, Matthias Gottfried Purmann (1649-1711) of Lublin, who couched cataracts, began an apprenticeship with surgeon Paul Rumpelt in Groß-Glogau (Głogów). Purmann also worked in Frankfurt and Pomerania. From 1685 onward, Purmann worked in Breslau. For cataract surgery, Purmann used an eyelid retractor attached to a forehead bandage. He inserted a round needle a straw's breadth from the cornea (Grunder 1859, pp. 392-6; Kaczorowski 1998). In 1697, Purmann opened a practice in Halberdstat (Kaczorowski 1998).

In 1665, Joseph v. Stütphen, an itinerant oculist, operated on cataracts in Silesia (Grunder 1859, p. 395).

In 1668, Jacob Hoervold, "Oculist", lithotomist, liver, and wound doctor from Breslau arrived in Bergen. He died the same year (Ingerslev 1873, p. 558).

Between 1671 and 1672, Krzysztof Lorentz, from Tarnówko, in the Duchy of Legnica in Silesia, practiced in Gdańsk as an ophthalmologist, lithotomist, and physician (Sokol 1958, p. 240-1). Lorentz provided a nonsurgical cure of a town council official, who had suffered from eye problems for 5 years (Sokol 1958, p. 241). Lorentz cured 67-year-old Daniel Jacobi, the church organist, of bilateral cataracts, along with 3 others with the same condition. Lorentz removed a large tumor from a peasant, a breast cancer from a widow, and a tumor from the inside of the cheek of a young patient, as witnessed by the local physician Dr. Wolf (Sokol 1958, p. 241). With the 1673 certificate of his previously witnessed cures in Gdańsk, Lorentz later (in 1676) asked the Gdańsk city council to grant him a monopoly in his field of expertise. After an examination by physicians, they approved him to practice but reserved the right to grant the same to other practitioners (Sokol 1958, p. 241).

Apparently before 1675, the oculist Cornelius Tilborg had practiced in "in High-Germany, Poland, France, Spain, and Italy", according to his advertisements (see British Isles chapter).

In 1676 Wejgant Jerzy was admitted to the court service, as an oculist (Bednarski 1928, p. 70-1).

In 1678, Martin Schröders from Gdansk, a "Medizinae Practicus u. Okulist", had begun practicing in Mitau (Brennsohn "Kurlands" 1929, p. 363; see Latvia).

In 1685, "Daniel Croon of Danzig, an oculist" was granted to permission to erect a booth in the market square in Tallinn for 3 weeks "providing that he does not miss the sermons" (Kitching 1995). Daniel Krohn (or Daniel Krohna) was one of the most prominent oculists in Danzig (Sokol 1957, p. 101, 177).

By 1692, Augustinus Ambrosius Schiller, an "Okulist u. Mediziner" born in Breslau, had settled in Riga (Brennsohn "Estlands" 1922, p. 321; see Latvia).

From 1693 to 1698, Johann Andreas Eisenbarth (1663–1727) practiced in Breslau, and other towns in Pomerania and Silesia (Zajaczkowski "Breslau" 2014). Eisenbarth also practiced in 1723 in Königsberg (Kaliningrad), Elbig (Elbląg) Prussian Holland

(Warmia/Mazury), and in 1724, in Marienburg (Malbork) and Danzig (Gdańsk) (Zajączkowski “Danzig” 2014).

Before about 1662 and 1700, when his undated handbill appeared in London, John Schultius a “High-German...expert Oculist” who couched cataracts stated that he had practiced “in Poland, Germany, Italy, Holland, and Flanders...” (see British Isles chapter).

In 1700, Wawrzyniec Tigel, who had studied and collaborated with Krohn until his death in 1698, sought permission from the Gdańsk city council to practice there as an ophthalmologist. However, after consultation with a doctor, the council only permitted Tigel to sell beverages of a non-medicinal nature (Sokol 1958, p. 242-3).

In 1703, a handbill from Alten Stettin (Szczecin) lauded an unknown “Oculist” for curing, on Feb. 1, 1703, the cataracts that the 76-year-old Dorothea Sophia Michaelis, widow of Johann Zanten, had endured for 21 years. However, Dorothea died on March 8, 1703 (Zandt 1703).

According to the provisions of the Medical Act of April 23, 1703, in Gdansk, itinerant operators were not allowed to perform procedures without prior consultation with physicians in difficult and unclear cases (Sokol 1958, p. 243). Those guilty of violating this provision faced severe penalties, including expulsion from the city.

Between 1749 and 1750, the oculist Joseph Hilmer toured Breslau (see British Isles chapter).

By 1750, Christian Gottlieb Cyrus had practiced in Breslau (Norrie 1896/7).

In 1752, John Taylor practiced in Poland (Lachs 1921).

In 1753, Tóbiás Kern of Silesia practiced as an oculist in Buda (Gyula 1929, p. 86).

In 1763, Johann Matthias Sandtner, an “Oculist u. Operateur” practiced in 1763 in Frauenburg (Frombork), in Sep. 1763 in Gdansk, in July 1764 in Flatau (Złotów), before moving to Kurlands by 1767 (Brennsohn “Kurlands” 1929, p. 452; see Latvia).

In 1768 and again in 1791, the oculist David Grube advertised in Lubeck (Marx 1970, p. 18). In 1791, he claimed to have received royal privileges in Prussia, Russia, Poland, and the Holy Roman Empire (Marx 1970, p. 18).

Conclusions.

Over 50 ophthalmologists can be identified in Poland between the 1330s and 1700. The earliest eye specialist identified in Poland was a French doctor summoned to Wroclaw to treat the eyes of King John of Bohemia in the 1330s. A contract to restore vision, which likely related to cataract surgery, was identified in 1422 in Krakow. Treatment of cataract is explicitly specified in 1514 in Krakow. Cataract surgery is explicitly specified in 1602 in Krakow.

References.

- Axel-Nilsson** G. Makalös: fältherren greve Jakob de la Gardies hus i Stockholm. Kommitten for Stockholmsforskning; 1984.
- Baas** K. Augenärztliches aus dem späteren deutschen Mittelalter. Albrecht von Graefes Archiv für Ophthalmologie. 1923 Mar;111(1):84-90.
- Bartisch** G, Blanchard DL. Ophthalmouleia. Wayenborgh. Oostend. 1996.
- Becker** E. Hildesheimer Chirurgen in alter Zeit. Von Dr. med. Ernst Becker. Archiv für klinische Chirurgie. 1902; 66: 863-87.
- Bednarski** A. Historia okulistyki w Polsce w wieku XIII-XVIII. Lwowie: Nakładem Towarzystwa Naukowego. 1928.
- Brennsohn** I. Die Aerzte Estlands. Vom Beginn der historischen Zeit bis zur Gegenwart. Ein biographisches Lexikon nebst einer historischen Einleitung über das Medizinalwesen Estlands. Von Dr. med. Isidorus Brennsohn in Riga. Riga: Bruhns, 1922: 254.
- Brennsohn** I. Die Ärzte Kurlands vom Beginn der herzoglichen Zeit bis zur Gegenwart: ein biographisches Lexikon ; nebst einer historischen Einleitung über das Medizinalwesen Kurlands. Riga: Ernest, 1929.
- Brennsohn** I. Die Aerzte Livlands Von Den Ältesten Zeiten Bis Zur Gegenwart: Ein Biographisches Lexikon Nebst Einer Historischen Einleitung Über Das Medizinalwesen Livlands. Riga. Bruhns. 1905.
- Čapaite** R. The Topic of health in the letters of Grand Duke Vytautas of Lithuania and his contemporaries. Lithuanian Historical Studies. 2013 Jan 8;18(1):1-45.
- Ehsländische Literärische Gesellschaft.** Beiträge zur Kunde Est-, Liv- und Kurlands. Band IV. Heft 3. Reval: Franz Kluge. 1890: 261-2.
- Gründer** JW. Geschichte der Chirurgie von den Urzeiten bis zu Anfang des achtzehnten Jahrhunderts. Breslau: Trewendt & Granier, 1859.
- Gyula Magyary-Kossa.** Magyar orvosi emlékek. Értekezések a magyar orvostörténelem köréből 2. A Magyar Orvosi Könyvtár Társulat Könyvtára 122. Budapest: Kottet, 1929. Available from: library.hungaricana.hu/hu/view/KlasszikusOrvosiKonyvek_153
- Helm** J. Die Geschichte der Augenheilkunde in Frankfurt am Main bis zum Beginn des 19. Jahrhunderts. Johann-Wolfgang-Goethe-Universitaet, Frankfurt am Main; 1965.
- Henning** A. Zur Augenheilkunde im 18. Jahrhundert: Das «Okulisten-seculum» in Berlin. Fortschritte der Ophthalmologie. 1989;86(3):256-8.
- Hirschberg** J, Blodi F (trans.). The History of Ophthalmology. Vol. 10. The First and Second Half of the Nineteenth Century (part nine to seventeen). Bonn: Wayenborgh, 1991.
- Kaczorowski** W. [Matthaus Gottfried Purmann (1649-1711). Contribution to the history of surgery]. Med Nowozytna. 1998;5(2):101-7.
- Kitching** LP. New land for research: The German-language theater in Reval/Tallinn and Hans Jacob Wigandt's petition of 1630. Journal of Baltic Studies. 1995 Mar 1;26(1):25-44.
- Krivaitienė** D. Oftalmologinės sveikatos priežiūros prieinamumas Lietuvoje: realijos ir optimizavimo gairės. Vilnius. Mykolo Romerio Universitetas. 2011: 10.
- Lachs** J. Die ältesten Okulisten Polens. Archiv für Geschichte der Medizin. 1921 Nov 1(H. 5/6):175-81.
- Lindberg** BS. Kirurgernas historia: Om badare, barberare och fältskärer. 2017.
- Marx** R. Geschichte der Augenheilkunde in Lubeck. Lubeck. Akademie Lubeck. 1970.
- McVaugh** MR. Cataracts and hernias: aspects of surgical practice in the fourteenth century. Med Hist. 2001 Jul;45(3):319-40.
- Norrie** G. Oculists in ancient times especially in Scandinavia. Janus. Vol. 1. 1896-7; 227-42.
- Nowak** Z. Dwa memoriały torunskich fizyków miejskich przeciw fałszywym doctorom z roku 1587. Acta Universitatis Nicolai Copernici. Historia. 1984; 19(147): 73-91.
- Reichborn-Kjennerud** I, Grøn Fr, Kobro I: Medisinens historie i Norge. Grøndahl & Søn's Forlag 1936. New Edition, Kildeforlaget Oslo 1985: 140-1.
- Sokół** S. Tło społeczne medycyny gdańskiej w epoce Odrodzenia. Kwartalnik Historii Nauki i Techniki 1956; 1(1):193-199.
- Sokół** S. Historia gdańskiego cechu chirurgów, 1454-1820. Zakład Narodowy im. Ossolińskich, Wydawn. Polskiej Akademii Nauk, 1957: 101-180.
- Sokół** S. Polnische Mediziner in Basel im XVI—XVII Jahrhundert. „Kwartalnik Historii Nauki i Techniki”, Sonderheft 1960: 175-190.
- Sokół** S. Wędrowni operatorzy w Gdańsku w XVI i XVII w., [Odb. z: Rocznik Gdański 1956/1957 t. 15/16], Gdańsk 1958. P. 224-246.
- Zajączkowski** T. History of medicine, surgery and urology in Breslau/Wrocław. Pomeranian Journal of Life Sciences. 2014;60(2):113-26.
- Zajączkowski** T. History of education in medicine and surgery, first hospitals—development of urology in Danzig/Gdańsk. Pomeranian Journal of Life Sciences. 2014;60(1):118-33.
- Zandt** DS, Fabricius F. Der Approbirte und privilegirte beste Oculist, Welcher An der ... Fr. Dorothea Sophia Michaelis, Des ... Herrn Johann Zanten, Viel-Jährigen Königl. Bedienten, auch letzlich der Königl. Stifts-Kirchen und Gymnasii Carolini hieselbst wolverordneten Administratoris, Nachgelassenen Frau Wittwen, Nach 21. Jährigem erlittenen beschwerlichen Staar, und Abgang des Gesichtes, Den 1. Februarii, des Alten Stetten: Höpfner, 1703. digital.staatsbibliothek-berlin.de/

9. A Chronology of Ophthalmology in Scandinavia (1484-1800).¹

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Denmark (1484-).

Century	Name (Year)
1400s	Kersten ('84).
1500s	Dauchberuk ('63), Valentine Russwurin ('70s, G).
1600s	Anders Skytte ('10), Selmer ('36), Jacobi ('42), St. von Sütphen Sr (G→D '66), Borri ('70, It.), Nicolaj ('71), Geltzer ('76).
1700s	Von Quoten ('15), C. G. Cyrus (G→D '50), Gehring (G→Jutland '51), Taylor ('51), Thouron ('51), Heuermann ('55), Tadini (It→D '59), Hoffmann (E→D→N '70), Pellier (F→D '78)

See other countries for details: N=Norway, D=Denmark, E=England, G=Germany, It=Italy.

In 1461, Kersten of Lübbeck, described as “mester Kersten, de ogen arste” had a debt to the town of Uelzen. In 1464, Kersten practiced in Randers in Jütland, and was listed as buying oxen (Norn 2016, Baas 1923). In 1465, Kersten still owed a debt for the purchase of 20 oxen (Marx 1970, p. 6).

In 1520, the first painting of spectacles in Denmark was taken to the Viborg Cathedral in Jutland (Norn 2016).

In 1563, Danish oculist János Dauchberuk practiced in Hungary (see Hungary, Gyula 1929, p. 86).

Before 1573, when he appeared in England, Valentine Russwurin of Schmalkalden, Germany had practiced in Denmark. In fact, one of his handbills has survived in Copenhagen. In it, he promised to treat “Squamæ, Nubeculæ, Cataracter” (Norrie 1893).

By about 1610, Anders Skytte (1583-1631), who called himself Toxotius, practiced in Denmark. He studied from 1602-1606 with Casparus Bauhinus in Basel, and then in Peterlingen (Payern) with Fabricius Hildanus. Skytte made a small anatomical model of the eye (Norrie 1896/7). *Anonymi Buch von Augenkrankheiten mit gemahlen Figuren*, which is a copy of Bartisch's ophthalmic treatise, with original watercolors, which can be dated to the early 1600s in Denmark due to the presence of Eskimos who were taken to Denmark in 1605, appears to show Skytte performing cataract surgery (Norrie 1896/7; Norn 2016; Norrie 1893).

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In 1619, the first medical legislation in Denmark specified that “Barberer, Apothekere, Chemikere [chemists], Oculister, Broksnidere [lithotomists], og Landløbere [itinerants?]” are permitted to operate as long as they do not give internal remedies .(Ingerslev 1873, pp. 313, 319, 394).

In 1636, Jørgen Selmer (or Georg) was granted a license to be the exclusive oculist and hernia surgeon in Jutland, and he resided in Viborg (Ingerslev 1873, pp. 392-3; Burman-Becker 1864, p. 202-4).

In 1642, Bruno Jacobi, "Oculist und Chyrurgus", born in Olderheim in East Friesland, was given the privilege to settle and practice in Odense. His privileges were confirmed in 1651 by Fredrik III., who in 1653 permitted Jacobi to settle in Copenhagen, where he later died and was buried in Frue Kirke (Ingerslev 1873, p. 392-3, 401, 557).

In the 17th century, Meldola Jacob was a Jewish oculist at the University of Copenhagen (Koren 1973, p. 93). It is probable that he is the same as Bruno Jacobi.

Stephen von Sutphen (1601-1666) was said to have practiced in Denmark (Grove 1906; Henning 1997).

From 1667 to 1670, Joseph Francisco Borri lived in Denmark and performed a lensectomy on a goose, which was able to see afterwards (Norn 2016).

In 1671, Laurentius Nicolaj (described as Bruchschneider) received a license as an oculist in Denmark (Norn 2016; Norrie 1893).

In 1672, Johan Christoph Folman, “*oculist oc zahnartz*” was granted permission to practice in Copenhagen (Norrie 1893).

From 1676, Hans Gottfried Geltzer (c. 1638-1699) worked as an oculist in Sæd (Sønderjylland). He was born in Tønder and died in Sæd (Egill Snorrason 1994, p. 175).

About 1715, Samuel Paulsen von Quoten (or Salomon Poulsen), moved to Copenhagen, and advertised as an oculist, lithotomist, dentist and functioned as a mountebank actor producing marionette plays (Carlson 1976, Norn 2016, Norrie 1893). He received a license there in 1716 (Norrie 1896/7). Once he set up a booth in the market in Jutland, despite not having a license (Norrie 1896/7). In 1727, he set up his practice in the market on the island of Møn, but he attempted to flee with patient payments before actually performing any treatments. He was imprisoned and forced to repay the money (Norrie 1896/7).

In 1730, Henning Ditlev Clausen died. He was regarded as a capable surgeon in Copenhagen, including with respect to eye surgeries, even though he was not a member of the barber’s guild (Norrie 1893).

In 1750, **Christian Gottlieb Cyrus** (1715-1788), of Breslau, passed through Hamburg on his way to Copenhagen and then Stockholm, Trondhiem, Bergen, and Christiana (Oslo) by 1751 (Norrie 1896/7). In Copenhagen, he treated performed surgeries in public on poor blind people in front of distinguished people and doctors, and the grateful town magistrate awarded a golden cup weighing over one pound, and in Trondhiem the magistrate gave him a golden snuff-box weighing half a pound (Norrie 1896/7; Lindberg 2017, p. 40). He had

cured many people in Prague and Breslau (Norrie 1896/7). In Stockholm, the Collegium praised his skill, and referred to him as "chirurgus & ophthalmiatist" (Lindberg 2017, p. 40). After his Scandinavian tour, Cyrus practiced in Hamburg, Bremen, Emden, and the Netherlands, where the Groninger Courant of 1753 reported that even several years after treatment, 3 Swiss women he had needled could still see (Staerstikker vejlewiki 2022). From 1758 to 1788, Cyrus was the court oculist for Frederick II (Henning 1989).

In 1751, John Taylor practiced in Denmark. Danish surgeon Georg Heuermann examined 50 of the patients that Cyrus and Taylor operated on in Denmark ("Stærstikker" vejlewiki 2022). Taylor was one of the biggest advertisers. He was said to have traveled around in a wagon painted with eyes. He arrived in Copenhagen on July 12, 1751 and went to Fredensborg castle for an audience with the king as he desired to become the court oculist. He presented his instruments to the king, who admired them. After multiple trips to court, it was announced that Taylor was the king's eye doctor. After a few weeks, Taylor left Denmark and went to Russia (Høiris and Ledet 2007, p. 242).

In 1751 and 1752, the oculist Gehring of Hamburg practiced in Aalborg in Jutland for 5 months (see Germany, Marx 1970, p. 11; Norrie 1896/7; Norrie 1893).

In 1751, Thouron, who had assisted John Taylor, practiced in Elsinore, and received a testimonial from the magistrate for his cures of the blind (Norrie 1896/7). In Viborg in Jutland, he successfully operated on a 32-year-old woman with congenital blindness (Norrie 1896/7). Thouron was praised in Sleswic for curing a 60-year-old man who had been blind for 7 years, and for not taking any money in advance, and not leaving until the cure was complete (Norrie 1896/7).

In 1755, Georg Heuermann (1722-1768) of Germany, a former student of Simon Cruger, performed the first cataract extraction in Denmark. In 1756, Heuermann published a surgical treatise in German. He practiced as a medical doctor and taught students ophthalmology (Norn 2016; Reichborn-Kjennerud 1985, pp. 140-1). The first cataract extraction in Denmark was performed in 1755 on a 60 year old who had been blind in one eye since 1712 and developed a cataract in the other eye 12 years later. Heuermann identified mature cataracts of both eyes and offered to do surgery. The patient was placed in a chair in the light and an assistant standing behind the patient lifted the upper eye lid. Heuermann pulled the lower eyelid down with the index and middle finger, and with the knife in the other hand opened the cornea with one incision. The aqueous humor came out, and the cataract pushed forward into the pupil, but stayed behind the iris. Then, he pressed the eye with his two fingers and the cataract came out so fast that it fell on the floor. Heuermann made the patient close the eye to look for the cataract and to prevent more aqueous from exiting. The patient could still see the tiles on the ceiling. Heuermann bandaged the eye. During the first few days, the aqueous flowed out of the eye, but on the fourth day the wound closed and by the third week the patient was completely healthy and could walk by himself down the street (Høiris and Ledet 2007, p. 243). After that extraction, Heuermann performed several more, but he did not give up the old medical nor surgical techniques. He had done an operation on one eye on a 'watch master', but not without problems. So when there began to develop a cataract on the other side he tried to

prevent the development by giving 8 weeks of mercury with worm powder (Høiris and Ledet 2007, p. 243).

In 1759, Tadini of Italy was summoned before the collegium medicum in Denmark because some of his patients had paid in advance without being cured (Norrie 1896/7; Norrie 1893; see Italy).

In 1760, the Collegium minutes of Sep. 8 indicate that the “Oculiste Mnsr. Desmassers” announced his arrival on Aug. 21, and extracted cataracts, rather than depressing them. The Collegium accepted this practice, and insisted on examining Desmassers. It was noted that cataract extraction had been performed 4 or 5 years previously in the Copenhagen (Norrie 1893).

The oculist Hillmer practiced in Copenhagen in 1762, 1763, and 1774 (on November 6) (Norrie 1893).

In 1767, Bouny, a French oculist, practiced in Copenhagen (Norrie 1893).

In 1768, the surgeon Bernhard Heinrich Schnell advertised in Copenhagen. He was considered experienced in treating eye diseases (Norrie 1893).

In 1777, Jean François Pellier and his brother Denis practiced together in Copenhagen (Henning 1997, p. 347).

In 1810, Carl Christian Withusen (1779-1853) performed cataract extractions in Denmark. He also did the first artificial pupil there in 1820 (Norn 2016).

Norway (1589-).

Century	
1500s	Heberlin ('89)
1600s	Kemenes ('30), Hoervold ('68),
1700s	Cyrus ('51), von Baader ('66), Hoffmann ('70), Noring (90s).

In 1589, David Heberlin, probably of Germany, was a “Chirurgus et Ophthalmicus” who settled in Telemark (Reichborn-Kjennerud 1985, p. 140).

In 1630, “Mester Baltser Kemenes” from Prindslauff (Prinzlaff near Danzig) worked as an oculist, lithotomist, and wound surgeon in Stavanger (Reichborn-Kjennerud 1985, pp. 140).

In 1668, Jacob Hoervold, “Oculist”, lithotomist, liver, and wound doctor from Breslau arrived in Bergen. He died the same year (Ingerslev 1873, p. 558).

In 1748, surgeon Georg Henrik Ulrik Frederik Wasmuth arrived in Trondheim. He was born in 1724 in Mecklenburg, became a barber apprentice in Trondheim, and passed his exam in 1748 at the Anatomical-Surgical Theater in Copenhagen. Later in 1748, he became the sole barber-surgeon in Trondheim, and in 1758, he was appointed a regimental surgeon. In 1763, he sold his barber practice and established a clinic on the Echli farm near

Trondheim, with poor patients treated for free. Once, he operated on cataracts (“Stær”) on eight people, two of whom could subsequently read with glasses or magnifiers. The others were able to guide themselves when walking postoperatively.

In 1751, Christian Gottlieb Cyrus practiced in Trondhiem, Bergen, and Christiana (Oslo) (Norrie 1896/7).

In 1766, von Baader practiced in Bergen, without any of his (ocular) cures being effective (Norrie 1896/7; Reichborn-Kjennerud 1985, pp. 140-1; Norrie 1893).

In 1770, Hoffmann of England performed cataract surgery in Oslo and Larvik. He had previously practiced in Denmark (Reoichborn-Kjennerud 1985, p. 141).

In the late 1790s, Laurits Noring, a Swedish oculist, came to Oslo. He was rich and cured patients for free. He made countless blind people see. In Oslo, he wanted to operate on old Mrs. Anker, probably for cataracts. She had been blind for many years. However, the operation failed, and the young Swede ultimately fell sick and died while staying at her house, at about 40 years of age, in 1797 (Reoichborn-Kjennerud 1985, p. 141).

Sweden (1642-).

Century	
1600s	Steiner (‘42), Petzold (‘45), Lader (‘47), St. von Sütphen Sr (G→S ‘66), Erickson (‘69), Gensen (H→S→R ‘79), Adolph (‘91), Schrader (‘91), Öltken (‘94)
1700s	Ribe (‘35), Schützerantz (‘43), C. G. Cyrus (G→S ‘50), Taylor (E→S, ‘51), Acrel (‘52), Rönnow (‘66), Odhelius (‘70), Pellier (F→S ‘78), Noring (S→N ‘90s), Rainery (‘92)

S=Sweden, N=Norway, F=France, H=Holland, R=Russia.

In 1642, Steiner, known as the “Danziger oculisten”, made eye balms for Count Jakob de la Gardie (d. 1652), as his eyesight failed, at the Makalös Palace in Stockholm (Axel-Nilsson 1984, pp. 40, 48).

In 1645, Martin Petzoldt was summoned as an oculist for Count Jakob de la Gardie at the Makalös Palace in Stockholm, and performed an eye surgery on the count (Axel-Nilsson 1984, pp. 40, 52). Petzold and his sons next practiced in Flensburg in 1749 (see Germany).

From 1647 to 1675, Daniel Lader "oculist et epratur medicinæ" from Danzig practiced in Stockholm (Lindberg 2017, p. 39).

In 1649, Dionysius Fischer, who described himself as “Medicinae utriusque cultor, approbiert Stein- und Bruchschneider, bewährter Oculist, Leib- und Wundarzt” came to Riga as a doctor in the Swedish garrison (see Latvia).

Stephen von Sutphen (1601-1666) was said to have practiced in Sweden (Grove 1906, p. 71; Henning 1997).

In 1669, Yagan Erickson, a 46-year-old of Sweden, who was a “good ophthalmologist”, was invited by the pharmaceutical staff in Moscow to work there, but he declined on account of the low pay. Erickson also treated urinary stones, injuries, and cancer. He had studied in many studies (Zimin 2018).

Before 1679, Yurii Gensen (or Martynov), who was Dutch, and treated eyes, bones, and wounds, served in Sweden for 1 year (Unkovskaya 1999, p. 91; see Russia).

In 1688, Christian Adolphi, an oculist who had been examined in Stockholm, practiced in Estonia (see Estonia).

In 1691, Christian Adolph requested permission to practice as a "andre doctores, chirurgi och pharmacopæi". A hearing was held before the Collegium Medicum. He indicated he learned from travelling with the oculist Jacob Willem from Hamburg. The Collegium reported to the king that Adolph was useless and knew nothing (Lindberg 2017, p. 38).

In 1691, the oculist Johann Hindrich Schrader (or Schrandner) was examined in Sweden. He had learned couching from Baltzer Lemmer in Brandenburg (Norrie 1896/7; Norrie 1893). The Collegium wrote that Schrandner understood cataract surgery, but not anatomy, and left the decision on clinical privileges up to the king. The wording suggested that some local surgeons might perform cataract surgery, but probably to a small extent (Lindberg 2017, p. 38).

In 1694, oculist Gerhard Öltken (or von Öltken) requested a stipend from the king to perform cataract surgery on the poor. Öltken was initially turned down by the Collegium on the basis that some local barbers performed the surgery. However, Öltken was successful awarded an annual stipend in 1697 on the basis of his experience as an oculist. Subsequently, Öltken got into a legal dispute for using the title Doctor (Lindberg 2017, p. 38-9).

In 1729, André Ramthum, a Swedish-German oculist, advertised in Liège (see Belgium).

From 1735, Carl Fredrik Ribe (1708-1764) of Stockholm performed eye surgeries in his home town (Lindberg 2017, p. 42). He had studied in Paris and at the Inseln Hospital in Bern.

In 1740, the surgeon and skilled oculist Isac Wree died. Wree was born in Stockholm at the beginning of the century. He became a Doctor of Medicine, presumably in France, where he stayed for eight years, and then returned to Stockholm to practice medicine. He decided to travel to France again, but his ship was wrecked off the coast of Bornholm, and he perished, around the year 1740 (Salvius 1758, pp. 212-3).

From 1743, Herman Schützererantz (1713-1802) practiced as a general surgeon in Stockholm, but included eye surgery as part of his practice (Lindberg 2017, p. 42).

In 1750, Christian Gottlieb Cyrus performed eye operations in Stockholm (Norrie 1896/7; see Germany).

In 1751-2, John Taylor practiced in Sweden (Norrie 1896/7; Lindberg 2017, p. 40-4).

By 1752, Olof af Acrel (1717–1806) was a general surgeon in Stockholm, but he also performed eye operations (Lindberg 2017, p. 42). Acrel trained in France, Germany, and Sweden. In Germany, he studied under eye surgeon Johan Ludwig Hommel in Strassburg. Acrel began working as a surgeon in Stockholm in 1752. He taught at the Serafimer Hospital. He wrote a treatise entitled “On the Cataract of the Eye”. Acrel performed couching initially, but as of 1760, he switched to the extraction method (Lindberg 2017, p. 42-3). By 1771, Acrel had taught Deneke of Finland, who later perform cataract extractions (Vannas 1984, p. 5).

In 1755, Nils Rosén (b. 1706) of Stockholm lectured at Uppsala on the eye. Rosen did not perform eye surgery, but he had previously studied under St. Yves in Paris in 1727 (Lindberg 2017, p. 42).

In 1762, the oculist Hilmer practiced in Sweden (Norrie 1893).

In 1766, Casten Rönnow returned to his home town of Stockholm to work as a surgeon. He wrote a case report about a cataract couching. He had studied in Paris in 1728 (Lindberg 2017, p. 43).

By 1770, Johan L. Odhelius was performing cataract extractions despite training as a physician rather than a surgeon. He was the chief physician at the Serafimer Hospital for 50 years from 1763 to 1813. In 1775, he presented a lecture about his method of cataract extraction. He was a physician at the Royal Seraphim Hospital in Stockholm (Dohlman 1989; Lindberg 2017, p. 44).

In 1778, Jean François Pellier and his brother Denis practiced together in Stockholm (Henning 1997, p. 347).

In 1792-3, Sweden was visited by Joseph Rainery from Holland, who operated on cataracts in Gothenburg, Örebro, and Stockholm, where he performed a bilateral surgery with Acrel, von Schulzenheim and Odhelius in attendance. Subsequently, one eye could see well, but the other eye was blind from a hypopyon. Rainery blamed the doctors at the Serafimer Hospital for the poor outcome, because they did not let him determine the aftercare (Lindberg 2017, pp. 44-5).

Finland (1753-).

Anders Chydenius (1729-1803) performed eye operations in Alaveteli (Nedervetil), where he worked between 1753 and 1765. Chydenius wrote:

“I assiduously read Archiater Rosén von Rosenstein’s anatomy and also began to conduct surgical procedures, to excise cancerous tumours and sebaceous cysts, often in quite dangerous places, and in particular to operate on the eyes and make incisions in the eyelids of those with ulcerating eyes, with almost unbelievable success. After many trials I invented an eye-water that somewhat resembles that of Mrs Segercrona but which excels it in many respects and is specific enough for most

weak and bleary eyes...when I took over the parish of Kokkola my official duties also became too extensive and unremitting for me to be able to continue..., except that I have now and then been obliged to perform operations on those with weak eyesight and occasionally to write prescriptions for some of my parishioners to the pharmacy in Vaasa or Kokkola, owing to the lack of any reliable medical practitioner any closer than 14 mil from here.”

Some have believed that these eye operations were cataract surgeries.

In 1771, regimental surgeon C. H. Deneke, assisted by Professor J. Haartman performed a bilateral cataract extraction by the Daviel method in Helsinki. Deneke had studied with Olof af Acrel at Uppsala, and also in France, England and Germany. (Vannas 1984, p. 5).

In the 1830s, Dr. F. G. Sanmark presented his own modifications of the Daviel surgery at the Vaasa Hospital (Vannas 1984, p. 5).

Iceland (1890-).

In the year 1237, Bishop Gudmund, who resided in Iceland, was ordered by Pope Gregory IX to resign due to blindness. The bishop died that year (Reichborn-Kjennerud 1985, p. 63).

In 1890, Björn Ólafsson (1862–1909) returned to Iceland as a district medical officer. He had trained in ophthalmology in Copenhagen, under Professor Edmund Hansen-Grut, beginning in 1888. He performed surgeries for cataract, glaucoma, strabismus, and eyelid conditions, and is considered the first ophthalmologist in Iceland (Alsbirk 2002).

Greenland (1908).

In 1741, Hans Egede, a missionary in Greenland, reported that to treat pterygium or pseudopterygium, the Inuits “. . . make a little hook out of a sewing needle and thread it, and then with a knife rip skin or membranes off.” In 1752, an Inuit woman operated on her husband’s only eye, but the eye was penetrated, and he became totally blind (Norn 1994).

Carl Martin Norman-Hansen (1861-1947) was the earliest known ophthalmologist in Greenland. He travelled the entire coast in 1908-09, and performed the first cataract extraction in Greenland (in Ivigtut) and the northernmost in the world (in Umanaq). He described frequent pterygium and snow blindness in Greenland (Norn 1994). The administration in Copenhagen meant for Norman-Hansen to be a substitute district general doctor as detailed in sharply worded correspondence from Copenhagen. As such, the next time an eye doctor was sent to Greenland was in 1926 (Valdemar Hertz) (Norn 1994, p. 128)

Once the intraocular lens became more common in the 1980s, patients in Greenland had to be sent to mainland Denmark for the operation. As of 1993, the first ophthalmologic clinic was opened in Nuuk but there was still a significant wait time. The districts had an eye consultant come out for screenings at least once a year (Norn 1994, p. 130).

References.

- Alsbirk PH.** Ophthalmology in Iceland. *Acta Ophthalmologica Scandinavica*. 2002 Apr;80:45. **Axel-Nilsson G.** Makalös: fältherren greve Jakob de la Gardies hus i Stockholm. Kommitten för Stockholmsforskning; 1984. **Baas K.** Augenärztliches aus dem späteren deutschen Mittelalter. *Albrecht von Graefes Archiv für Ophthalmologie*. 1923 Mar;111(1):84-90. **Burman-Becker.** Et mærkeligt Privilegium for en Qvaksalver i Danmark. *Archiv for Pharmaci og teknisk Chemi*. 1864; Copenhagen. Vol. 18. 202-204. **Carlson M.** Scandinavia's International Baroque Theatre. *Educational Theatre Journal*. 1976 Mar 1;28(1):5-34. **Chydenius A.** Anders Chydenius autobiography. Available from: kootuttekset.chydenius.fi/en/kirjoitukset/sjalvbiografi/ Accessed Sep. 15, 2024. **Dohlman C, Albert DM.** Johan Lorenz Odhelius and Cataract extraction in Sweden. *Acta Ophthalmologica*. 1989 May;67(S192):11-6. **Egill Snorrason A.** Helstatens skarprettere - og deres skiftende ægteskabsforbindelser i 1600- og 1700-tallet. In: *Personalhistorisk Tidsskrift* 1994;2, p. 175. **Grove GL.** En formentlig Slægtskabsforbindelse mellem den freibergske Kirurg Stephan von Sütphen og den danske Adelsslægt Zytphen. *Personalhistorisk Tidsskrift: Femte Række*. Udgivet Af Samfundet For Dansk-Norsk Genealogi Og Personalhistorie. Copenhagen. 1906; 3 Bind: 54-75. **Gyula Magyary-Kossa.** Magyar orvosi emlékek. Éртекезések a magyar orvostörténelem köréből 2. A Magyar Orvosi Könyvtár Társulat Könyvtára 122. Budapest: Kotet, 1929. **Henning A.** Augenärzte in Berlin zur Zeit Friedrichs II. und ihre Vorgänger. In: *Donnert E (ed.) Europa in der fruhen Neuzeit: Festschrift für Gunter Muhlfordt*. 1997; 7:347-386. **Hoiris O, Ledet T.** Oplysningens Verden : Ide, Historie, Videnskab, Kunst. Aarhus: Aarhus Universitetsforlag, 2007. **Ingerslev V.** Danmarks Laeger og Laegevaesen fra de aeldste Tider indtil Aar 1800: En Fremstilling efter trykte Kilder ved V. Ingerslev. I. E. Jespersen; 1873. **Koren N.** Jewish physicians : a biographical index. Jerusalem: Israel Univ. Press, 1973. **Lindberg BS.** Kirurgernas historia: Om badare, barberare och fältskärer. 2017. **Marx R.** Geschichte der Augenheilkunde in Lubeck. Lubeck. Akademie Lubeck. 1970. **Norn AM.** Oftalmologien i Grønland fra år 1000 til år 2000. *Dansk medicinhistorisk arbog*. 1994; 116-131. **Norrie G.** Okulister og Oftalmologer i gamle Dage,særligt i Danmark. *Nordiskt Medicinskt Arkiv*. 1893; 7: 1-49. **Norrie G.** Oculists in ancient times especially in Scandinavia. *Janus*. Vol. 1. 1896-7; 227-42. **Norn M.** Danish Ophthalmology—from start to 1865. *Acta Ophthalmologica*. 2016 Mar;94(2):205-9. **Reichborn-Kjennerud I, Grøn Fr, Kobro I:** Medisinens historie i Norge. Grøndahl & Søns Forlag 1936. New Edition, Kildeforlaget Oslo 1985: 140-1. **Salvius.** Kongl. Vetenskaps Academiens Handligar. 1758. Vol. XIX. Stockholm: Salvius. **Stærstikker Christian Gottlieb Cyrus.** <http://vejlewiki.dk> March 12, 2023. **Unkovskaya MV.** Brief Lives: a Handbook of Medical Practitioners in Muscovy, 1620-1701. London: Wellcome Institute. 1999. **Vannas S.** History of Ophthalmology in Finland. University of Helsinki. 1984. **Zimin I, Grzybowski A.** Spectacles in Russia from Moscow Tsardom to Russian Empire. XVII—first half of the XIX Century. *Archiwum Historii i Filozofii Medycyny*. 2018(81):92-9.

11. Ophthalmologists and cataract surgeons in Holland and the Netherlands (1538-1750).¹

B. Frits Hogewind, MD.

In 1538, a feast was held in Middleburg to celebrate the eye operation on prelate van Rosendale by an (unidentified) oculist, and the cost of the feast was reimbursed to an innkeeper named Jacob in die Zoutkete.²

In 1578, *steensnijder ende oculist* **Valentijn Ruusworm van Smalcand** (also known as Valentine Russwurin of Schmalkalden) announced to the city council that he intended to settle in Leiden. He still lived in Leiden in 1585.³

In 1579, **Andreas Herls**, born in the Duchy of Brabant, was active in Leiden and signed an agreement to restore the vision of Gerijt Sijboultsz, a Cellite.⁴

In 1593, a Rotterdam ordinance outlawed couching of cataracts ("*Catarackten*") without the express consent of the "*Burgemeesteren*".⁵

In a notarial deed of 1588, **Frederick Wagenaar**, a surgeon in Rotterdam, promised to teach **Lambrecht Persoons** to treat ocular diseases.⁶

In 1593, **Jacobus (or James) van Otten** received a medical degree from Leiden University in 1593.⁷ By 1601, van Otten had arrived in England, where he trained apprentices who performed cataract surgery (see England).⁸

In 1609, **Jorien Pibbes** worked as an *ophthalmiste* (and lithotomiste, surgeon of stones and hernia) in Amsterdam.⁹

In 1611, **Cornelis Cornelissone** worked as an *ophthalmiste* (and *lithotomiste*, surgeon of stones and hernia) in Heusden.¹⁰

¹ This chapter is cited: Hogewind BF. Ophthalmologists and cataract surgeons in Holland and the Netherlands (1538-1750). In: Leffler CT (ed.). Biographies of Ophthalmologists from Around the World. Ancient, Medieval, and Early Modern. 2024. Dr. Hogewind is from: Department of Ophthalmology, Medical Center Haaglanden, The Hague.

² Kesteloo 1888. p. 327.

³ Ladan 2012. p.160; Leffler 2021. pp. 75-122.

⁴ Ladan 2012. p. 160.

⁵ Henkes 1982. p. 1.

⁶ Henkes 1982. pp. 6,7.

⁷ Nomina studiosorum 1875. p. 35.

⁸ Leffler 2021. pp. 75-122.

⁹ Schevensteen 1929. p. 175.

¹⁰ Schevensteen 1929. p. 177.

In 1616, the banns of marriage were registered in Leiden for **Pieter Maleth**, who called himself ‘*optalmis*’ (“*vrij operateur van steen, breuksnijder en optalmis*”). His brother **Guillaume Malet** was registered as a witness.¹ In 1633, Guillaume Malet also known as Guiliaemor Guilliam Maleth was registered as an oculist in a notarial deed from Rotterdam, dated 1633. The registration declared that Guillaume Malet, *oculist, operateur of breucksnijder*, treated a disabled five-year-old boy, but the treatment was not ophthalmological.² There was an act of divorce of Guillaume Malet and Magdalena Cornelisdr. in Leiden in 1648. Also an advertising flyer exists: “*Reclame strooibiljet van 'den seer Konst-rijcken ende vermaerden Mr. Guiliaem Maleth, vrij Chirurgijn, Operateur ende Oculist ofte Oogen-meester - Stadt Operateur ende Oculist van de vermaerde Coopsteden, als, van Middelburch, Rotterdam (sic!), ende van Leyden, daer hy woonachtich is*”.³ In 1633, the Groningen council forbid itinerant practitioners to practice outside of two annual fairs, but exceptions were made for oculists, herniotomists, and lithotomists, who could petition the council for approval at any time.⁴ In about 1650, a flyer of **Pieter Maleth**, son of Guilliam Maleth, circulated: “*Reclame strooibiljet van Mr. Pieter Maleth, zoon van Mr. Guilliam 'Stadts Operateur ende Oculist, van de vermaerde Koopsteden, namelijk Leyden ende Dordrecht' wonende te Dordrecht*”.⁵ The flyer reported that Mr. Pieter Maleth artfully cures men and women who have been blind for years by cataract.

From 1650 **Jan van Duren** (also Joan van Duijren or Joannis van Duijzen) worked as an oculist in Amsterdam.⁶ He published declarations of parents who thanked him for the cure of their blind children.⁷ In 1656 van Duren declared that he wrote an ironic song about the lithotomist Gerard Nicolai Philandus.⁸ By 1657 van Duren was bankrupt and moved to Den Haag. Between 1664 and 1665 notarial deeds are written that attest the ocular treatments by van Duren. For example, he treated an ocular trauma nonsurgically “*De behandeling bestaat uit het drinken van dranken, elk à 7 schelling Vlaems of 42 stuivers, en wrijven over*

¹ Erfgoed Leiden 1616. p. 8.

² Stadsarchief Rotterdam 1633. p. 205.

³ Erfgoed Leiden en omstreken 1650. p. 30121.

⁴ Huisman 1989. p. 69.

⁵ Erfgoed Leiden en omstreken 1650. p. 30122.

⁶ Ordinairisse middel-weeckse courante 1665, March 24.

⁷ Vereniging tegen de kwakzalverij 1893.

⁸ Grijp 1992. p. 351.

zijn mannelijkheid of het gebruik van een watertje om het lid mee te deppen zodat hij zaadlozingen krijgt en daardoor de kwade stoffen kwijtraakt. De behandeling duurt ca. 3 maanden en kost hem 50 gulden".¹ A deed records that Johannes van Dueren had to sell a house in The Hague against his wishes in 1665.²

In 1652, a house was sold in Amsterdam by **Claes Claessn**, who called himself an oculist.³

In 1657, the Amsterdam house of **Davidt Nijman**, who called himself an oculist, was sold after his death.⁴

In 1665, **Gerard Rump**, surgeon and oculist near the city of Schoonhoven, advertised that he treats cataracts by the needle, within an hour, that the vision is restored, and that there is a complete cure within 14 days. In addition, Rump tells the patient immediately after his examination whether the cataract is operable or not.⁵

In 1665, **Noach Smaltius**, a *Steinschneider*, allegedly performed couching procedures and was installed as city surgeon in Haarlem and in 1672 in Leiden.⁶

Jan Brikkenaar, a *Wundarzt*, was said to have performed couching procedures at the same time as Noach Smaltius (about 1665-1672, see above).⁷

According to a notarial deed of 1667 from Enkhuizen in the Amsterdam city archive, **Guilliam de Rijck** (b. 1609 in Amsterdam) assessed that a boy suffered from untreatable blindness because of a cataract-like condition of the eyes.⁸

In 1669, **Iacob Sasbout**, *opérateur, oculist, steen en breuksnijder* of the city of Dordrecht advertised that he has returned home after a visit to France.⁹

¹ Stadsarchief Rotterdam 1664. p. 236; Stadsarchief Rotterdam 1665. pp. 147, 237-239.

² Hof van Holland. 1665. p. 8.

³ Hof van Holland. 1652. p. 92.

⁴ Hof van Holland. 1657. p. 93.

⁵ Ordinair dingsdaeghse courante 1665, February 2.

⁶ Bitter 1914. pp. 568-576; Mensert 1845. p. 663; Solingen 1684. p. 56.

⁷ Vermeulen 1943. p. 171; Mensert 1828. p. 479.

⁸ Stadsarchief Amsterdam 1667. p. 36-58; Unger 1829. p. 258.

⁹ Oprechte Haerlemsche courant 1669, August 6.

In his 1680 surgical text, *Chirurgie na de hedendaegsche practijck*, **Paul Ba(r)bette** from Amsterdam wrote about cataract couching.¹

In 1682, the *Observationes Medico-Chirurgicae* of the general surgeon **Job van Meekeren** were published posthumously.² He wrote in detail on the cause of cataract and on its treatment by couching. It is very possible that van Meekeren performed couching procedures himself.³

In 1684, **Johannes van der Put**, oculist and operator, became a freeman in Groningen.⁴

In 1686, **Charles Caron** advertised that he had arrived in Breda, and that he couches cataracts [*lichten van Schellen, Cataracten etcetera van de Oogen*].⁵

In April 1692, **an unidentified oculist** from London advertised his arrival in Amsterdam, but his name was not published and he did not mention couching. He cures all sorts of watery painful eyes which are in danger of being lost as well as ocular fistulas. The oculist had been blind and was treated himself. Another paper advertised a doctor and oculist who resided in Amsterdam in the Spring for a while and just returned to stay for a longer time. These two advertisements might relate to the same oculist.⁶

In 1692, **Gerard Wezem** petitioned the mayor of Rotterdam to be admitted officially as an “oogmeester”, but these efforts were in vain.⁷

In 1659, three ambassadors from Morocco arrived in The Hague. The main objective of their mission was to find an oculist who could operate on the cataracts of Mohammed al-Hajj ibn Mohammed al-Dila'I, who was the sultan of Morocco from 1659 to 1662. Three oculists were

¹ Barbette 1680. pp. 60-63; Mensert 1827. p. 65.

² Van Meekeren 1682. p. 381-383.

³ Heinemann 1981. p.90-92.

⁴ Huisman 1989. p. 70.

⁵ Oprechte Haerlemsche courant 1686, December 10.

⁶ Oprechte Haerlemsche courant 1692, April 10; Amsterdamse courant 1692, August 14.

⁷ Henkes 1982. p. 7.

addressed, of whom two ultimately refused: **Van Wesel** and **Isaac Sasbout** (working in Utrecht). On the other hand, surgeon, operator, and oculist **Johan Donkaart** (working in Rijssel) agreed to travel to the sultan. However, because of civil disturbances, the mission was stranded in Tétouan, and Donkaart never reached the sultan.¹

Johannes Jacobus Rau was a Dutch surgeon and anatomist (1668 –1719) who made advances in lithotomy, or the treatment of urinary stones. Mensert describes him as being involved in couching.²

In 1702 and 1703, **Hermannus Rabba**, an oculist, stonecutter and herniotomist, visited Groningen.³

Herman(us) Boerhaave was a physician and professor at Leiden University. His 1708 lectures provided the scientific foundation for practical ophthalmology of the 18th century: he correctly described the cataract as an opacity of the crystalline lens.⁴ Boerhaave probably never performed a cataract operation; he always mentioned specialized ophthalmologists and oculists with regard to that operation.⁵

In 1722, **Amos Lambrechts** wrote about the eyes, according to Mensert. Lambrechts' descriptions are based on those of Babette, Blankaart, Dekkers, Muis and Heijdenrijk Overkamp.⁶

From 1712 until at least 1747, **Johan Joseph de Cleve** was a *Medicinae Doctor* in The Hague.⁷ The city archive of the Hague administers a writing on the abilities of Johan Joseph de Cleve, *Duytsche Operateur, Oculist, Steen en Bruck-sneyder, Veld-Medicus*,

¹ Wap 1862. p. 246,247; Caillé 1963. pp. 63,64.

² Mensert 1827. p. 70.

³ Huisman 1989. p. 67.

⁴ Hirschberg 1984(3). p. 41-42.

⁵ Hirschberg 1984(4). p. 128.

⁶ Mensert 1827. pp. 64,65.

⁷ van Zanten 1747. p. 59.

Chimicus en Laborant. The writing is accompanied by an earlier engraving by Henricus Causé.¹

In 1715, **Jan Ramas** of Enkhuizen published the second edition of his book. Ramas was a *chirurgyn, vroedmeester en oculist*, and the pupil and son-in-law of Zacharias Lepie, according to *Het Biografisch Woordenboek der Nederlanden*.²

In 1724, oculist **Nicolaas Jacobus Thomasus** rented a house (*huis, tuin, stalling voor 8 paarden in het slob tussen de tuin en het huis*) from Poulus Roscam, according to a notarial deed in the city archive of Delft.³

In 1728, **Caspar Joseph Fuchs**, an *opérateur en oculist*, was authorized to practice in Haarlem.⁴

On May 15, 1732, **D. Vreek** advertised in *The Oprechte Haerlemsche courant* that in Amsterdam he sells ‘*aqua ophthalmica anglicana*’ which cures all red, inflamed, tearing eyes and also evicts ‘*cataracta*’.⁵ In the *Amsterdamse courant* of June 19, 1736, Vreek advertised that he also sells the water in Rotterdam and Dordrecht.⁶

In 1734, 1735, 1749, and 1758, oculist **John Taylor** (1703-1773) of England visited the Dutch Republic.⁷ Taylor’s training was under Cheselden and Boerhaave, and partly in Leiden. From 1727 onwards he worked as a traveling oculist. On 14 August 1749 Taylor was received by the wife of the *stadhouder*, Anna of Hannover, a daughter of King George II. The following day the oculist was introduced to the stadhouder himself. On that occasion Taylor operated on the eyes of one of the stadhouder’s valets and the result impressed the princely couple so much that they conferred on him the title of ‘Oculist to their Serene and

¹ Haags Gemeentearchief, undated, 5369.

² van der AA 1874. p. 59.

³ Stadsarchief Delft 1724. p. 114.

⁴ Stadsarchief van Haarlem 1728. p. 35.

⁵ *Oprechte Haerlemsche courant* 1732, May 15.

⁶ *Amsterdamse courant* 1736, June 19.

⁷ Zegers 2005. pp. 1427-1430; Hirschberg 1984(4). pp. 150-189; Henning 1992. pp. 17204-17214.

Royal Highnesses'. In Sep. and Oct. 1749 the *Gaceta de Madrid* noted that Doctor Taylor officially has received the title of oculist by the stadtholder of the Dutch Republic. Not long thereafter the *Gaceta de Madrid* and the *Amsterdamsche Courant* published that the Amsterdam surgeon's guild warned against the operations of John Taylor.¹

In 1725 and 1726, **Johan Herman Francken** asked to be admitted as town oculist and man-midwife in Groningen, but was denied this by the mayor. Francken wrote a book in 1732 "The art rewarded with envy" (*De konst met nijd beloond*) in which he complained the town physicians used their influence on the government to secure their own practices, rather than to further patient care.² In 1733, Francken published in Amsterdam a chapter on his experiences with couching.³

In 1739, **Adriaan Verduin** was involved in couching and published his observations, according to Mensert.⁴

Joannes Schouwerman (or Schauwermans) was a son of the surgeon Joan Daniel Schauwermans from Cologne and lived in Mechelen, but worked for 30 years in Rotterdam before his death in 1749.⁵ Joannes Schouwerman was admitted in 1724 by the Collegium medicum of Amsterdam, though in 1734 the Amsterdam surgeons' guild advised the "*burgemeesters*" to refuse him admittance on the ground that he was 'a cheat ... and only fit to ... act as principal of the quacks'. In January 1735, the surgeons again advised turning him away, but only four months later he was admitted on the recommendation of the 'Collegium medicum'. His daughter (**Catharina-Isabella Schouwermans**) acted as oculist as well, but that is beyond of the scope of this chapter (i.e. later than 1750).⁶ Joannes Schouwerman (see above) had a sister **Catharina Schouwerman(s)** (not to be confused with Daniel's daughter Catharina(-Isabella) Schouwermans) who married Valentijn Rothermel (see below) and thus became **Catharina Rothermel** and later on

¹ *Gaceta de Madrid* 1749, September 16. pp. 293-294; *Gaceta de Madrid* 1749, October 8. p. 343; Lindeboom 1985. pp. 2458-2462; Zegers 2005. pp. 1427-1430; de Waardt 2003. pp. 145-151.

² Huisman 1989. pp. 67-82.

³ Francken 1733. p. 111; Mensert 1827. pp. 65,66.

⁴ Mensert 1827. p. 70.

⁵ Van Schevensteen 1924. p. 11.

⁶ de Waardt 2003. pp. 155-156; Van Andel MA 1925. p. 2119.

Catharina Schouwermans widow of Valentin Rodermel. She was certified as an oculist in Dordrecht, Rotterdam, Haarlem and Leiden.¹

Valentijn (or Valentin) **Rothermel** (or Rood Ermel, Rodermel) was married to Catrina Schouwerman (or Catharina Schouwermans, see above). Rothermel was a Lutheran itinerant oculist and surgeon who in 1738 collaborated with his father-in-law Joan Daniel Schouwermans (see above) in Haarlem. Valentijn Rothermel lived in Dordrecht in 1742 and in that year he received permission to practice in Utrecht. In 1745, he worked in Groningen, but he also practiced in Gouda, Den Haag, Leiden, Delft, Schiedam and Zwolle. His son **Valentijn** and his brother **Michael** asked permission to practice as oculists in Groningen but were refused.² From 1751 onwards, his wife Catrina (or Catharina) Schouwerman became “*stadsoculiste*” [oculist of the town] in Rotterdam, Dordrecht, Den Haag and Haarlem.³

In the newspaper “’s Gravenhaegse courant” from The Hague ‘*oogen- en tanden-meester*’ **C.F. Gunther** can be found, apparently a practising oculist.⁴

In 1741, **Peter Idema** from Sneek gave a lecture on the characteristics of cataract and on the anatomy of the eye.⁵

In 1746, **Petrus Camper**, born in Leiden 1722, graduated there as doctor of philosophy and doctor of medicine in 1746; he was a skillful surgeon who could couch or extract the cataract.⁶

Johannes Nettis became *stads-oogarts* [ophthalmologist of town] of the city of Middelburg.⁷

¹ van Andel 1925. p. 2119; de Waardt 2003. p. 145-151.

² Kranen. pp. 7,27; van Andel 1925. p. 2119.

³ Bitter 1914. p. 570; Henkes 1982. p. 1.

⁴ Salman 2022. p. 15-36.

⁵ Unger 1829. p. 258.

⁶ Hirschberg 1984(4). p. 136-146.

⁷ Molhuysen 1912. p. 983.

Joseph Hilmer practised as an oculist in Den Haag. In 1748, he was described by Geisweit as utterly poor. Hilmer was also fined for his treatment of a woman from Leiden which resulted in blindness.¹

In 1751, **Jan Pieter Rathlauw** described couching in his treatise on *cataracta* and mentioned that he had been practicing for 13 years.²

Other oculists that might have practised in Holland are **Ridder de Tadiny** and **Conty**.³

The list ends with **Jacques Daviel**. He never practiced in Holland, but in 1749 regional advertisements were published, announcing that he was available to teach apprentices, especially in couching.⁴ Soon after, however, in September 18, 1750, while in Cologne, Daviel performed a planned, primary cataract extraction. Within months after this earliest identified planned primary extraction of a cataract in toto from the posterior chamber, Daviel decided to definitely transfer from cataract couching to cataract extraction and thus ended the era in which couching was the dominant surgical procedure for cataract.⁵

After the reported cataract extraction by Daviel, **Gerrit ten Haaff** was possibly the first Dutch physician who performed cataract extractions, i.e. from 1758 onwards and he wrote about it in 1761.⁶

De Wenzel performed cataract extractions in the Holland from 1760 onwards and possibly before.⁷

¹ Kranen D. pp. 10-12,24,25,26,30,32; Van Schevensteen 1924. p. 26,27.

² Hirschberg 1984(4). pp. 146-147; van der AA 1874. p. 88.

³ Mensert 1848. p. 97; Van Andel 1917. pp. 1778-1784.; *Wekelijks-nieuws uyt Loven* 1788, Oct. 26, Nov. 2, Nov. 9.

⁴ 's Gravenhaegse courant 1749, Feb. 2; 's Gravenhaegse courant 1749, Feb. 12.

⁵ Leffler 2023. pp. 1-43.

⁶ Hirschberg 1984(4). pp. 147; Mensert 1827. pp. 75-76.

⁷ Mensert 1827. pp. 78-79.

References

- van der AA AJ.** Biografisch woordenboek de Nederlanden., Haarlem: J.J. van Brederode; 1874:16:59, 88.
- Amsterdamse courant.** 1692; August 14. **Amsterdamse courant.** 1736; June 19. **Van Andel MA.** Uit de laatste jaren der chirurgijngilden. Ned.Tijdschr.Geneesk. 1917;1778-1784. **van Andel MA.** Van Schevensteen, une famille d'oculistes ambulants. Ned.Tijdschr.Geneesk. 1925;2119. **Barbette P.** Chirurgie na de hedendaegsche praktijk. Amsterdam: Jacob Lescaijle; 1680: 60-63. **Bitter H.** Stadsoperateurs en steensnijders in de 17de en 18de eeuw, te Haarlem. Ned.Tijdschr.Geneesk. 1914;58:568-576. **Caillé J.** Ambassades et missions marocains aux pays-bas à l'époque des sultans saadiens. Hespéris Tamuda. 1963;4:63,64. **Erfgoed Leiden.** 1616: Archief 1004, inventarisnummer 8. www.openarch.nl. **Erfgoed Leiden.** 1650: LB 30121. www.erfgoedleiden.nl. **Erfgoed Leiden.** 1650: LB 30122. www.erfgoedleiden.nl. **Francken JH.** Nieuwe oeffenings verhandelingen der vier hoofdhandgrepen. Amsterdam: Jacobus Helm; 1733: 111. **Gaceta de Madrid.** 1749; September 16: 293-294. **Gaceta de Madrid.** 1749; October 8: 343. **'s Gravenhaegse courant.** 1749; February 2. **'s Gravenhaegse courant.** 1749; February 12. **Grijp LP.** Spotliederen in de gouden eeuw. Volkskundig Bulletin. 1992;18.3:351. **Haags Gemeentearchief.** Undated: kl. B 5369. www.haagsgemeentearchief.nl. **Heinemann MH,** Pinell-Staehle HC. Rembrandt van Rijn and cataract surgery in 17th century Amsterdam. Hist. Ophthalm. Intern. 1981;2:90-92. **Henkes HE.** Van staarstekker tot oogarts, vier eeuwen oogheelkunde in Rotterdam. Rotterdam: Erasmus Universiteit; 1982:1,6,7. **Henning A.** Die Okulisten Joseph Hillmer und John Taylor in Leipzig. Aktuelle Augenheilkd 1992;17204-17214. **Hirschberg J.** Johan Peter Rathlauw. In: Blodi FC (transl.). The history of ophthalmology in the eighteenth century. Bonn: Wayenborgh Verlag; 1984(3):41-42. **Hirschberg J.** Johan Peter Rathlauw. In: Blodi FC (transl.). The history of ophthalmology in the eighteenth century. Bonn: Wayenborgh Verlag; 1984(4): 128,136-147,150-189. **Hof van Holland:** Decreten. 1652;3366:92. www.nationaalarchief.nl. **Hof van Holland:** Decreten. 1657;3375:93. www.nationaalarchief.nl. **Hof van Holland:** Decreten. 1665;3394:8. www.nationaalarchief.nl. **Huisman F.** Itinerant medical practitioners in the Dutch Republic. The case of Groningen. Tractrix, I. 1989:63-83. **Kesteloo HM.** De stadsrekeningen van Middelburg (III) van 1500-1549. In: Zeeuwsch Genootschap der Wetenschappen. Archief. Middelburg: Altorffer; 1888;6:327. www.tijdschriftenbankzeeland.nl **Kranen D.** De balsem van Antje Groenewoud. 7,10-12,24-27,30,32. **Ladan R.** Gezondheidszorg in Leiden in de late middeleeuwen. Hilversum: Uitgeverij Verloren; 2012:160. **Leffler CT,** Hogewind BF. The Early History of Extracting Cataracts and Visual Axis Opacities by Pulling Them out of the Eye: from Scacchi in 1596, to Pallucci and Daviel in 1750. Preprint; 2023:1-43. www.researchgate.net **Leffler CT,** Schwartz SG, Peterson E, Couser NL, Salman AR. The First Cataract Surgeons in the British Isles. Am J Ophthalmol. 2021;230:75-122.
- Lindeboom GA.** De oogoperatie op Johann Sebastiaan Bach en diens operateur chevalier John Taylor. Ned.Tijdschr.Geneesk. 1985;129:2458-2462. **Van Meekeren.** Observationes Medico-Chirurgicae. Amsterdam: Boom; 1682:381-383.
- Mensert W.** Geschiedkundig overzicht omtrent de heerschende en voorkomende oogziekten in Nederland. Amsterdam: Vink; 1827:64-66,70,75,76,78,79. **Mensert W.** Augenheilkunde in den Niederlanden. In: Gerson GH, Julius NH. Magazin der Ausländischen Literatur. Hamburg: Perthes und Besser; 1828;15:479. **Mensert W.** Voorstel en beschrijving mijner beweegbare staarnaald. In: Dompeling JB, Nederlandsch lancet. Utrecht: N. van der Monde; 1845;7:663. **Mensert W.** Een ernstig woord. Amsterdam. S. de Grebber Simonsz; 1848:97. **Molhuysen PC,** Blok PJ. Nieuw Nederlandsch Biografisch Woordenboek. Leiden: Sijthoff; 1912;2:983. **Nomina studiosorum,** per singulos rectores. In: Hagae comitum. Album studiosorum, Academiae Lugduno Batavae. Leiden: apud Martinum Nijhoff; 1875: 35. **Oprechte Haerlemsche courant.** 1669; August 6. **Oprechte Haerlemsche courant** 1686; December 10. **Oprechte Haerlemsche courant.** 1692; April 10. **Oprechte Haerlemsche courant.** 1732; May 15. **Ordinaris dingsdaeghse courante.** 1665; February 2. **Ordinarisse middel-weeckse courante.** 1665; March 24. **Salman J.** Tandmeesters veroveren de medische markt, Irreguliere kennisproductie in de achttiende-eeuwse Republiek. Jaarboek de achttiende eeuw. 2022;54:15-36. **Van Schevensteen AFC.** Les oculistes ambulants dans les provinces belges aux XVII^{me} et XVIII^{me} siècles. Bruxelles: Goemaere; 1924:11,26,27. **Van Schevensteen AFC.** Quelques oculistes

ambulants à Anvers, à la fin du XVIe siècle. Anvers: 6me Congrès international d'Histoire de la Médecine; 1929:175.

Solingen C. Manuale operationen der chirurgie. Amsterdam: Jan Bouman; 1684:56. **Stadsarchief Amsterdam.** 1667: inventaris 3658. www.archief.amsterdam.nl. **Stadsarchief Delft.** 1724: inventaris 730.14, folio 114. www.stadsarchiefdelft.nl. **Stadsarchief van Haarlem.** 1728: inventaris 3993.62 [29]. www.archieven.nl. **Stadsarchief Rotterdam.** 1633: Archief 18, inventarisnummer 165, akte 122, folio 205. www.openarch.nl. **Stadsarchief Rotterdam.** 1664: Archief 18, inventaris 452, akte 236 www.stadsarchief.rotterdam.nl. **Stadsarchief Rotterdam.** 1665: Archief 18, inventaris 237, akte 237. www.stadsarchief.rotterdam.nl. **Stadsarchief Rotterdam.** 1665: Archief 18, inventaris 452, akte 238. www.stadsarchief.rotterdam.nl. **Stadsarchief Rotterdam.** 1665: Archief 18, inventaris 452, akte 239. www.stadsarchief.rotterdam.nl. **Stadsarchief Rotterdam.** 1665: Archief 18, inventaris 543, akte 147. www.stadsarchief.rotterdam.nl. **Unger LH, Klose FA.** Chirurgie und Augenheilkunde. In: Summarium des neuesten aus der gesammten medicin. Leipzig:Hartmann; 1829;1:258. **Vereniging** tegen de kwakzalverij. 1893. www.kwakzalverij.nl. **Vermeulen H.** Een reizend geestelijke geneesheer. NTG. 1943; 87, IV, 171 I. **de Waardt H.** Breaking the boundaries: irregular healers in eighteenth century. In: Gijswijt-Hofstra M, Marland H, de Waardt H. Illness and Healing Alternatives in Western Europe. London, Taylor & Francis: 2003: 145-151, 155-156. **Wap JFF.** Een Utrechtsch oculist bij den koning van Marokko in 1659. In: Utrechtsche volks-almanak, Utrecht: Andriessen; 1862:246,247.

Wekelijks-nieuws uyt Loven. 1788; October 26. **Wekelijks-nieuws uyt Loven.** 1788; November 2. **Wekelijks-nieuws uyt Loven.** 1788; November 9. **van Zanten C.** Bericht, wegens de gesteltenisse der hooge vergaderingen en collegien in 's Gravenhage. 's Gravenhage: Cornelis van Zanten; 1747:59. **Zegers RH.** The eyes of Johann Sebastian Bach. Arch Ophthalmol. 2005;123(10):1427-1430.

11. A Chronology of Oculists and Cataract Surgeons in Latin America: 1570-1830.¹

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Mexico (1570).

Indigenous peoples of Mexico (1570-).

The Nahuatl of Mesoamerica (which included the Aztecs) had anatomic terms for the eyelid (ixquatolli), eyebrow (ixquamolli), eye (ixtelotli), and pupil (ixtotoh).¹¹³ Intraocular structures such as the crystalline lens were not described.¹¹³ Among the Aztecs of Mexico, wounds could be sutured and dressed.¹¹⁴

Francisco Hernández de Toledo was a physician who explored New Spain (in the region of present day Mexico) from 1570 to 1577, and recorded the botanical life and its native uses. A variety of plants from New Spain and the Caribbean were applied to the eyes to treat inflammation. The tomato, a plant indigenous to the Americas, was considered by native healers to help with “blocked tear ducts and headaches.”¹¹⁵, p. 116

Franciscan missionary Bernardino de Sahagún (1499-1590) recorded that the Nahuatl doctors “cure well...eye illnesses and cut the fleshy growth from them [*curar bien...el mal de los ojos, y cortar la carnaza de ellos*].”¹²², p. 36 He specified that “The cataracts of the eyes have to be scraped and abraded [*Las cataratas de los ojos se han de raspar y raer*]” with a root.¹²², p. 89 Presumably this condition actually represented ocular surface opacities, such as pterygium. Alternatively, one could “scrape the inside of the eyelids [*rasparse lo interior de los parparos*]” with an herb.¹²², p. 89 Bleeding and purging were also indicated. A branching lesion on the eye (presumably a pterygium) was removed by lifting with a thorn [*Lo enramado de los ojos, se ha de procurar cortar la telilla alzandola con alguna espina*].¹²², p. 90 Then mother’s milk was applied to the eyes.

Phlebotomy was used for both religious and medical purposes among the Nahuatl.¹¹⁴, p. 31-180; 122, p. 89-90 Therapeutic cupping was also performed.¹¹⁴, p. 180 Cupping involves heating a cup placed on the skin. When the cup cools, a vacuum is created to draw blood to the surface. The Nahuatl often practiced wet cupping, which involves the same procedure along with skin incisions, to allow blood to collect in the cup.¹¹⁴, p. 366 Women healers often treated eye diseases among the Nahuatl.¹¹⁴, p. 169-70; 120, p. 234-6 According to the 1629 treatise of cleric Hernando Ruiz de Alarcón, a Nahuatl healer named María Salome treated red eyes

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by irrigating with cold water, along with an incantation demanding that the “snakes” (conjunctival vessels) stop “mistreating” the “enchanted mirror” (the eyes).^{114, p. 169-70}

In the Americas, a variety of preparations were used to treat “spots” or “films” on the eyes. In the early works, most of the preparations for corneal opacities, such as coconut milk, were used topically. Curiously, the indigenous recipe of New Spain^{115, p. 243} called for the Mexican poppy to be applied with an unusual solvent: “The Milk, with a Womans Milk that bore a Female, dropt into the Eyes, Cures their Inflammations”.^{116, p. 196}

Among the Huichol of northern Mexico, traditional curanderos treated trachoma by a ceremony which concluded by sucking blood and pus from the eyes, and then spitting this out along with a ceremonial “crystal” which represented the disease.¹¹⁷

Native remedies for both inflammation and corneal opacities from trachoma, pterygium, etc., were in some cases intermediate between medicine and surgery. Chemically or physically abrasive substances were applied to the eyes, often with some mechanical scraping to dislodge opacities or cause bleeding.

The capsicum peppers (the active ingredient in modern pepper spray) include both spicy and sweet species native to Central and South America. The spicy varieties contain capsaicin, and are also known by the Nahuatl (Aztec) name chilli. Hernández noted that the chilli pepper quauhchilli, that “The Twigs bark’d take off spots and marks from the Eyes.” This shrub “was planted by the Indian Kings in their Gardens.”^{116, p. 196-7} One wonders whether the twigs would have been used to scrape the corneas. The 1615 publication based on Hernández manuscripts noted merely that “the cortex of the new sprouts, applied to the eyes [*aplicada a los ojos*] resolves the clouds [*nuebes*].”^{118, p. 83} Even if the material were simply laid on the unanesthetized eye, the mechanical effect of forceful eyelid closure might have removed corneal opacities.

According to Ruiz de Alarcón, eye surgery was performed in 1629 by the Nahuatl in Atenango in the present-day area of Guerrero.^{119, p. 83} For “dust and superfluities that obstruct my conjured crystal” (the eye), which was also called the “mirror”, the strong herb *tlachichinoa*, which means “incendiary” (and can correspond with *Tournefortia capitata*), was used to prick and rub the eyes until they bleed.^{114, p. 171}

In Mesoamerica, liquid exuded by the mesquite or acacia tree, or water in which the shoots had been soaked, was placed in the eyes.^{115, p. 164} According to the 1629 treatise, the sap from the bark of the mesquite tree was used by a Nahuatl woman named Marta Mónica to treat a painful inflammatory eye condition called “*xoxouhqui coacihuiztli*”, which has been translated as “blue-green pain”.^{120, p. 235} The color has also been simply translated as “green”.^{114, p. 171} The sap was collected on a “pearly head” which has been translated as the head of a pin,^{114, p. 170-1} or the index finger.^{120, p. 235-6} The coated finger (or pin) was used to rub the patient’s eye until it bled.^{114, p. 170; 120, p. 235} The eyelids were then anointed with tobacco, and chicken blood was placed in the eyes.^{114, p. 170; 120, p. 235} Undoubtedly, some cases of eye pain would have been due to angle closure glaucoma. Did the characterization “*xoxouhqui*” imply a green pupil? The question is important because many cases of angle closure will appear to have a green pupil. However, the translations are not explicit on this

point. The range of use of mesquite for eye ailments extended northward to the American Southwest, including the Mescalero Apaches, Pimas, and Maricopas.¹²¹

Pterygium surgery (1601).

Surgery apparently for corneal opacity was performed in early New Spain. Fray (Father) Lope de Cuellar had poor vision after a fall at the Temple of Yanhuitlán in Oaxaca in 1601.^{3, p. 185-6} One eye had “a cloud which covered the entire pupil [*una nube, que le cubría toda la niña*]”, perhaps a traumatic cataract, and was deemed untreatable.^{4, p. 354-}
⁵ The other eye was found to have “a fleshy or raised opacity [*una carnosidad o catarata levadiza*]”, which might have been a pre-existing corneal lesion, such as a pterygium. The surgeon of the monastery picked at the fleshy material with a needle until Lope exclaimed that he could see the Rosary, and thanked God. The surgeon said that he had missed a little tissue, and continued to use his instrument. Unfortunately, he ruptured the eye (“*reventó el ojo*”). Although the Father lost all vision, he with equanimity again thanked God.^{4, p. 354-5} Even centuries ago, the perfect was the enemy of the good.

Figure. Evidence of cataract surgery in Latin America appears by the following years. The dates correspond with the paper subheadings, which are arranged chronologically. E = evidence of cataract extraction (as opposed to couching or division).



Drago in Mexico by 1611 (and Peru in 1628).

Francisco Drago (or Diego, flourished 1611-1625), was a Genovese “oculista” who couched cataracts (“vatir cataratas”),^{6, p. 104; 7, p. 42} removed pterygia (“extirpar carnosidades”),^{6, p. 104} and treated urinary blockages and hernias. It seems likely that Drago would have been practicing in Mexico by 1611, because one had to practice for 5 years before taking the protomedical examination, which Drago appears to have done by 1616 (Figure).⁸ In 1616, the viceregal government moved to expel him to Europe because he was a foreigner. Drago did not fight this effort, but the public outcry and the testimony of the Protomédico on November 4, 1616 that “Drajo” had no equal in the kingdom moved the government to relent.^{6, p. 99-100} In 1621, because he was the city’s “only and excellent” oculist, the city decided to pay him 200 pesos annually, to defray the costs of treating the poor. He was still practicing in 1625.⁹

As Drago was the only oculist in the region, it seems likely that he operated on the Augustinian friar Francisco Muñoz (d. 1616). Because Muñoz had poor vision when he was named the Prior of Xonacatepec in 1602,¹⁰ his continued appointment was threatened by a provincial clerical official. Therefore, Muñoz felt compelled to submit to cataract couching by a foreign doctor. The first eye was left moderately healthy (“medio sano”),¹¹ but the pupil was damaged in the second eye, which was lost.¹⁰ Muñoz was subsequently elected Prior of Mexico in 1611.¹⁰

Drago is almost certainly the oculist who, in 1628, traveled from Mexico to Lima, Peru, to couch the cataract of the government official Francisco López de Caravantes.¹

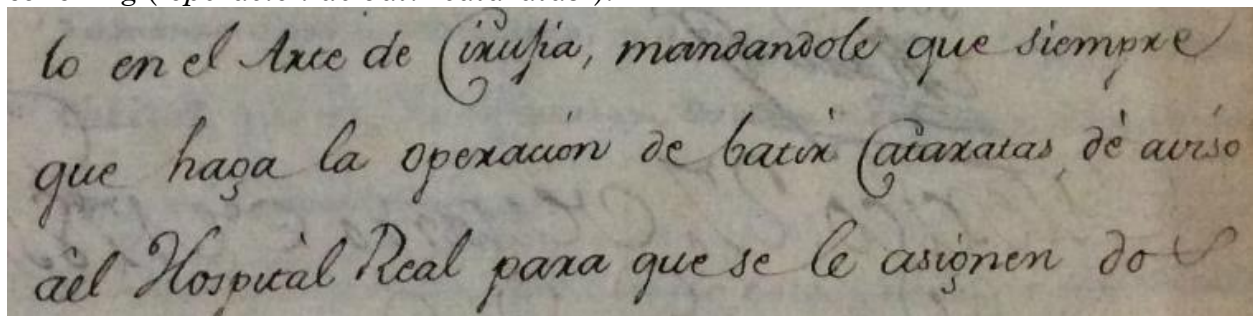
Even after Drago appeared in Mexico, access to cataract couching was limited. When discussing couching in 1712, the Moravian Jesuit missionary, Juan de Esteyneffer, noted that in his rural area, now part of Northeast Mexico, there were no skilled oculists, but that in cities such as Mexico, there were usually good “officials” for this condition.¹²

Even towards the end of the 18th century, it is not clear that cataract surgery would have been commonly incorporated in the training of local surgeons. During the 1780 competition for the post of catedrático of the Escuela de Cirugía in Mexico, only the candidate who had trained in Spain at the Colegio Real de Cádiz was asked about cataract surgery.¹³ The two locally-trained candidates¹⁴ were instead asked about the new operations for lacrimal fistula “las nuevas operaciones para la fistula lacrimal...”¹³

Peré in Veracruz by 1779. Juan Peré (fl. 1779-1794) was a Parisian-trained surgeon who arrived in Mexico in 1779. He was born in Pau, in southwest France. After his training, he travelled in the service of the Spanish monarch to Santo Domingo, before arriving in Veracruz to work at the Hospital de San Juan de Montesclaros.^{20, p. 371-99} According to a contemporary report, Peré was selected for

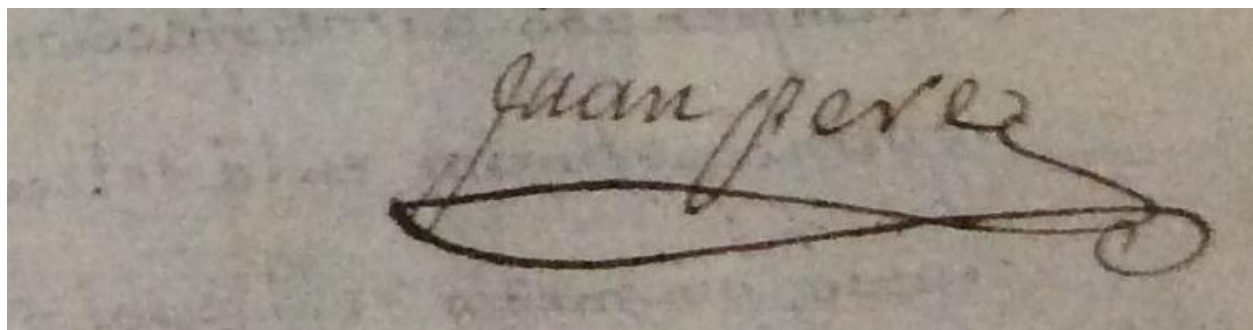
this position because of his ability in the “delicate and meticulous cataract operation, through which restoration of the sight to many blind has been achieved” (*“la delicada prolija operación de las cataratas, por medio de la cual se ha logrado restituir la vista a muchos ciegos.”*)²⁰ He was instructed to travel to Mexico City for an examination, and did so after some delay due to a smallpox epidemic. In 1781, he asked to serve in Mexico City. While there, he demonstrated his cataract operation at the Hospital Real de los Naturales. Cataract extraction, as opposed to couching, is suggested by the interest of his colleagues in a “meticulous” operation, and is plausible for a Parisian-trained surgeon. Nonetheless, in 1781, a government official mandated that Peré report any instances in which he performed the “operación de batir cataratas” (Figures).²¹ While this mandate may not reflect his full surgical capability, we cannot credit Peré with introducing extraction into Latin America. Peré continued to work at the Hospital de San Juan de Montesclaros in Veracruz until 1794.²⁰

Figure. Juan Peré was required to report cases in which he performed cataract couching (*“operación de batir cataratas”*).²¹



to en el Arce de (ixupia, mandandole que siempre
que haga la operacion de batir cataratas, de aviso
al Hospital Real para que se le asignen do

Figure. Signature of Juan Peré of France.²¹



Juan Perez

Ablanado in Veracruz by 1791. Joaquin Alonso Ablanado Arajavo (flourished 1791-1820) was a graduate of the Real Colegio de Cádiz and was selected by the director in 1787 to serve on a military expedition to the New World. The director deemed Ablanado unsuitable for service in the navy with long sea voyages, but thought he could do well in the army. After departing from Cádiz in January 1788, Ablanado was initially stationed in Mexico City.²² In 1790, Ablanado diagnosed the naturalist José Longinos Martínez with a “tercianias dobles”, a fever perhaps due to

malaria,^{23, p. 53} and certified that a prisoner held for desertion in the Real Cárcel de Corte was suffering from leprosy.²² In 1791, while in Veracruz, Ablanedo performed a couching for a long-established membranous cataract on a postal official of Veracruz.²⁴ Ablanedo also performed an operation of lithotomy. Ablanedo then served in Cuba before periods practicing in New Orleans (1794-5 and 1802-5),^{22, p. 189;25-28} and New Spain (by 1796 onwards),²² including service at the Hospital Real de San Carlos in Veracruz (1807-1810).^{22, p. 190; 29, p. 291} Believing that his poor health was related to the climate at Veracruz, Ablanedo retired, and ultimately returned to Spain in 1813.²²

Longinos in Mexico in 1795.

José Longinos Martínez Garrido (1756-1802)³² was a native of Logroño, near Calahorra, Spain^{33, p. 20} who practiced surgery in Madrid. In December 1786, his victory in a botanical competition earned him the spot as the naturalist for the Royal scientific expedition of New Spain.^{34, p. viii} Longinos arrived in Mexico in the summer of 1787.^{33, p. 21; 35, p. 162} Unfortunately, he frequently suffered illness in the New World. His quarrels with his peers and with the expedition director Martín Sessé^{34, p. vii} were handled by sending Longinos away, first to California, and then to Guatemala. Longinos argued that because he sought animal specimens, he could not search in the areas of value to the expedition botanists.^{33, p. 27-30}

Longinos established a Museum of Natural History in Mexico, even though Sessé viewed it as a distraction from the expedition. In April 1790, Longinos announced its imminent opening in the *Gazetas de Mexico*, though he anticipated some delay because he had been ill for four months.^{34, p. ix} His creation was incorporated into the museum at Chapultepec Palace in 1798.^{34, p. xiv}

Longinos asked the viceroy for permission to take leave from the expedition in May 1789, due to illness and the death of his wife.^{34, p. ix} As noted above, Ablanedo diagnosed Longinos with “tercianias dobles”, a fever perhaps due to malaria, in May 1790.^{36, p. 57}

In January 1791, Longinos left the capital to explore California.^{33, p. 130} The viceroy sent him with the expedition pharmacist, whom all agreed was incompetent.^{34, p. xi} Longinos’ observations related to ethnography, animals, and plants, including traditional medicinal uses.^{32,33, p. 137} Longinos journeyed as far as Monterrey, and was back in the Mexican capital by January 1794.^{34, p. xiii}

One source of friction with the director was that by about 1789, Longinos began practicing medicine and surgery in Mexico City.^{34, p. ix} He found that a cantharis beetle applied topically to soldiers affected with pneumonia was

curative.^{33, p. 136} Some historians claim that Longinos performed cataract surgery in Mexico.^{34, p. xv; 37; 38, p. 330} Our review suggests that Longinos advocated cataract extraction in principle, perhaps because of his training in Madrid. Nonetheless, we did not find evidence that he actually performed cataract surgery in the New World. Longinos managed conservatively the traumatic cataract which developed in 1794 in Carlos Barrón, an attorney from Zacatecas.^{39, p. 5} Another of his patients, José Joaquín Lecuona, the General Treasurer of Income from Tobacco, Powder and Cards, was rendered blind from cataracts in both eyes in December 1793.^{40, p. 68} Longinos managed Lecuona medically for more than a year.

In June 1795, Longinos was instructed to explore Guatemala. However, he asked for a delay of several months, because spring and autumn were the most appropriate seasons to operate on Lecuona's cataracts.^{40, p. 68} On June 27 1795, Lecuona himself petitioned the fiscal of the Real Hacienda for a delay until Longinos could operate and manage the postoperative period, because there was no one "in the kingdom who could execute the extraction and it is this operation which is most perfect in this category [en el Reino que sepa executar la extracción y ser esta la operación más perfecta en la clase]".^{40, p. 81} This petition was immediately denied, in part because a procedure could be done by another surgeon who had carried out a similar surgery on a functionary in Veracruz, and would pass through Mexico on his way to interior provinces.^{40, p. 81} This description might fit Ablanado, or perhaps Perú or Quiñones (see below). Longinos was ordered to leave Mexico on June 29, 1795. He did so in July,^{33, p. 153} and arrived in the Guatemalan capital on June 6, 1796.^{40, p. 83} He was to be accompanied by the Mexican botanist and physician José Mariano Mociño, though the two travelled separately.^{34, p. xiv}

It is tempting to speculate that while in Guatemala, Longinos' advocacy of cataract extraction might have influenced the surgeon Narciso Esparragosa. The intellectual community in the capital city was tightly knit. For instance, as late as 1820, there were still only 18 physicians in the entire kingdom of Guatemala.^{9, p. 140; 35, p. 301} The intellectuals founding the progressive *Sociedad Económica de Amigos del País* in October 1795 included Esparragosa, his mentor José Felipe Flores, and the editor of the *Gazeta de Guatemala*.^{40, p. 102} Longinos was essentially an honorary member of the *Sociedad Económica*,^{35, p. 318} which granted him a diploma of *socio de mérito*, and sponsored and promoted his projects,^{35, p. 162} including the Museum of Natural History which he established in Guatemala.^{33, p. 154} The inauguration of this museum and botanical garden on Dec 9, 1796 was a city-wide festival, attended by the captain general and the archbishop, and accompanied by orchestral music.^{35, p. 162; 40, p. 113; 41} Longinos was present, of course,^{40, p. 120} and it would not be surprising if Esparragosa were present, as well.

Longinos and Esparragosa shared a student in Mariano Antonio de Larrave, who obtained a bachelor's degree in 1795, and by July 20 of that year was a medical

student at the Hospital de San Juan de Dios.^{38, p. 325} At the same hospital, Flores was the physician and Esparragosa was the chief surgeon.³⁸ Larrave was attached to Longinos' expedition as a student,^{38, p. 330} and at the museum inauguration, Larrave submitted to academic questioning by Mociño.^{35, p. 164} In March 1798, the *Gazeta* reported that Larrave underwent an examination in surgery under Esparragosa at the *Real y Pontificia Universidad de San Carlos de Guatemala*.^{35, p. 287-91; 38} Larrave also defended his thesis under Esparragosa in July.^{9, p. 336, 38, p. 319}

After a brief sojourn into the field from January to July 1797, ended by worsening "asthma", Longinos remained in Guatemala, and in the city itself through 1799,^{40, p. 85-6} collecting specimens, directing the museum and educating the public about botany.^{33, p. 155} He died of tuberculosis in Campeche in 1802.^{40, p. 180} His legacy is not only his journal and the two museums of natural history, but possibly also advocating cataract extraction in Latin America.

Quiñones in Mexico in 1797.

Joseph Morales y Quiñones (flourished 1781-1803) began practicing surgery in 1781.⁴⁷ He was a professor of surgery in the College of San Fernando de Cádiz^{47,48} and a Royal Navy surgeon.⁴⁷ Between 1797 and 1803, he performed 182 operations in Mexico (City) with 11 failures (6%). By 1803, he claimed to have performed 402 operations in New Spain with 29 failures (7%).^{47,49} His wording is ambiguous, but suggests that the surgeries in New Spain might have occurred before 1797.⁴⁷ He is the first surgeon in New Spain known to have performed cataract extraction ("*la extraccion de toda catarata*").⁴⁸ He advertised that he performed the surgery with just one instrument, in contrast to the 5 instruments typically used.⁴⁷ In 1800 he stated that the surgery took 2 minutes, but by 1803, he claimed to have reduced this time to half a minute.^{47,48} The patient experienced less pain than when being bled.⁴⁸ Quiñones made his incision with the instrument of "Palucy". Natale Giuseppe Pallucci (1719-1797) introduced both a couching needle which was withdrawn from the eye with pressure from a spring, and a needle-knife for extractions.^{2, p. 191, 393}

Muñoz in Mexico by 1816.

José Miguel Muñoz González (1779-1855) was born in Mexico City.⁵⁷ When he was 12 years of age, his father died, and he took a job repairing umbrellas. At age 16, following his mother's death, he apprenticed with a barber.^{58, p. 97} In 1798, Muñoz obtained a license to perform phlebotomy.^{58, p. 97; 59} He performed minor procedures in a tienda on the Calle del Rastro.^{58, p. 197}

Muñoz took advantage of an 1804 law which permitted licensed phlebotomists to become surgeons by passing an examination.^{58, p. 193} He also

trained at the *Real Escuela de Cirugía*. This school enabled upward mobility, because training was free.^{58, p. 91-3} Ordinarily, students trained for 8 years, divided evenly between classes and clinical internships.^{58, p. 93-4} The *Hospital Real de Indios* supported the *Escuela* financially, and provided internships.^{58, p. 93-5} Muñoz graduated as a surgeon in 1807.^{58, p. 93-5} Surgeons generally had a lower status than their medical colleagues, but in 1831, when surgery merged with medicine in Mexico, Muñoz remained at the top of his profession.^{58, p. 203} His family employed two servants.^{58, p. 101}

Muñoz taught himself to extract cataracts using cadavers at the *Hospital Real* and using live sheep.^{58, p. 97} Of course, eye surgeries were performed without anesthesia during this period. Muñoz invented and presented to the *Escuela de Cirugía* a chair for extracting cataracts (“*un banquillo para extraer cataratas*”).^{60,61} The chair immobilized the patient, permitting the operation to be completed quickly, while keeping the patient and the surgeon comfortable.⁶⁰ By 1816, he had used the chair to operate at no charge on 8 poor persons who completely recovered their vision.^{9, p. 367} Muñoz also invented a cataract knife and eyelid speculum.^{57; 62, p. 62-72} Despite performing extractions, he still did couchings occasionally.^{62, p. 62-72} Muñoz’ successors viewed him as the father of ophthalmology in Mexico.⁶² They knew that a Spaniard had preceded Muñoz in performing cataract surgery in Mexico, but could not remember Quiñones’ name.^{62, p. 62-72}

In 1804, Francisco Xavier de Balmis led a worldwide expedition to distribute the smallpox vaccine, and made Muñoz “conservador de la vacuna” in Mexico, a post he held for 4 decades. Muñoz was responsible for preserving the vaccine.⁵⁹ He personally performed smallpox vaccinations between 1804 and 1810.⁶⁰ Between 1810 and 1828, over 40,000 children were vaccinated for smallpox in the capital.⁵⁹ In 1829, Muñoz participated in the committee for vaccination, and in 1830 published steps to prevent transmission in children.⁵⁹ In 1842, he transferred the responsibility for overseeing vaccinations to his son, Luis Muñoz, a professor in the School of Medicine.^{58, p. 193; 59} The elder Muñoz frequently attended deliveries,⁵⁸ and in fact assisted during the labor of the emperor’s wife in 1822.⁵⁹

The Mexican War of Independence (1810-1821)^{63, p. 2} produced numerous amputees. Muñoz was the “honorary first assistant” of the military surgical corps.^{9, p. 367} In 1816, he successfully applied to the viceroy for a patent on a prosthetic leg of his own invention.^{9, p. 368; 61} The leg permitted wearing a shoe, appeared to move naturally without placing pressure on the stump, would not be apparent below “a fine silk stocking”, and could even be used for dancing.^{9, p. 367} At a time when most European prostheses were made of wood, this metal prosthesis contained perforations to avoid a buildup of moisture.⁶⁰ By 1816, the prosthesis was already used by a man from Mexico City.^{9, p. 367}

In 1838, Mexican president and general Antonio López de Santa Anna was injured by a cannon fired by the French at Veracruz. His left leg developed gangrene, and was amputated. One of the prosthetic legs received by Santa Anna was designed by Muñoz.^{59,64}

Fitz Gerald in Mexico by 1822.

Edward Fitzgerald (Eduardo Fitz Gerald, flourished 1812-1834) of Ireland, a physician, surgeon, and oculist, arrived in America in about 1812. He travelled to “el mas rico Puerto” (perhaps Puerto Rico), Cuba, and “Costa firme”,³⁹ corresponding with present-day Honduras and Nicaragua. He arrived in Mexico in about 1821, and practiced in Durango and Zacatecas.

An attorney named Barrón sustained trauma to the left eye in 1789, and developed a cataract in 1794, which worsened in 1814.³⁹ Barron was evaluated by Longinos, as noted above, and also by Muñoz.³⁹ Finally, in 1824, Fitz Gerald performed a surgery which took only two minutes.³⁹ A reoperation was required the next day for “additional humor”, perhaps residual lens cortex.

Fitz Gerald claimed to have performed 150 operations in Puebla and 8 in Zacatecas.³⁹ In 1823, the town council of Lagos de Moreno reported that Fitz Gerald, a “presumed oculist”, intervened surgically in 10 patients, leaving 2 patients improved, but 8 worse than before.^{73, p. 45-6} Fitz Gerald then left town without notice.^{73, p. 45-6}

Fitz Gerald was aware of the technique of extraction, and advertised that he used the methods of his “peers”, the “immortal geniuses” John Cunningham Saunders (1773-1810) and William Adams.⁷⁴ Fitz Gerald once encountered in the street a man over age 60 who had developed poor vision at age 14, and blindness at age 18. With the patient standing against a wall, Fitz Gerald, also standing, “effectuated the permanent destruction of the cataract and its capsule with a scalpel in the left eye, and later with the left hand the extraction (*extracción*) of the opaque body in the right eye with the same instrument.”⁷⁵ The patient could distinguish the colors and identities of objects placed before him.

One 57-year-old woman of Tepecuacuilco developed dense cataracts in both eyes. In 1826, she travelled to Mexico, where she was referred to a professor who promised to restore her vision surgically for 100 pesos. However, she was disconsolate to learn that the professor (perhaps Muñoz) had learned how to perform the operation by dissecting a cadaver in a hospital and a dog’s eyes.⁷⁶ Thus, although Muñoz’s successors were justifiably proud that he taught

himself,⁶² his competitors highlighted this fact to his disadvantage. The alarmed patient found Fitz Geraldo, who operated in 5 minutes, allowing her to see objects the next day.⁷⁶

Fitz Geraldo treated conditions besides cataracts. He cured a 30-year-old woman who had a vascular tumor the size of a large orange in the right orbit.⁷⁷ He also treated a cancerous ulcer of the tongue, and a growth on the neck.³⁹ In February 1828, he advertised “medicinal cigarettes” which he invented for asthma.⁷⁸

In October 1828, Fitzgerald turned up in New Orleans, where he made known his publication printed in Mexico earlier that year which summarized political developments in Mexico.^{123,124}

On August 5, 1831, Fitz Geraldo was arrested and imprisoned.⁷⁹ While in prison, he advertised that he could still attend to patients.⁸⁰ The authorities suspected that Fitz Geraldo’s ideas triggered Juan Álvarez to carry out the *Revolución del Sur*, a Zapatista revolt, in the future State of Guerrero.⁸¹ It seems that Fitz Geraldo was still in custody in early 1832,⁸² but released, and still seeing patients, by 1834.⁸³

Oldivar in Mexico in 1825.

José Luciano Fremour de Oldivar (fl. 1825-1828), who styled himself as a professor of medicine and surgery, and an oculist, was a native of Puebla de los Angeles. He practiced in France, England, and the United States. In 1825, he travelled from the United States to his home country, after a “forced” absence of 29 years, and settled in the City of Mexico.⁸⁴

In 1826, “Doctor Oldivar” represented himself as a Mexican officer to a Texas settler from Missouri who was importing tobacco and other contraband aboard the schooner *Escambia* to the Lavaca River territory.^{85, p. 90-1; 86, p. 70-2} Oldivar promised to help sell the contraband, but was suspected of betraying the settler’s confidence when Mexican authorities soon arrived, seized the contraband, and made arrests.^{85, p. 90-1; 86, p. 70-2} The incident foreshadows the larger conflict between the English-speaking Texans and Mexico. In June 1828, Oldivar got married in San Pedro, south of the Rio Grande.⁸⁷

Hockin in Mexico in 1825.

William Hockin (fl. 1810-1826) of England first advertised in the City of Mexico in 1825.⁸⁸ Hockin was the nephew of William Adams of England (1783-

1827), under whom he studied for 8 years at the West-of-England Eye Infirmary, in London, and in Dublin. Adams, in turn, had been a student of Saunders.^{89, p. xi} Adams generally preferred to break up cataracts with a needle, leaving the pieces in the anterior chamber, although he would sometimes perform a secondary operation to extract the lens remnants if they failed to be absorbed.^{89, p. 144-55} Adams also described surgery for ectropium.

In April 1809, Hockin watched Adams' treat a 33-year-old man with a chronic pulmonary disorder, who developed bilateral uveitis and miosis and posterior synechiae. Perhaps the patient had sarcoidosis. Belladonna was unsuccessful in enlarging the pupil. Adams surgically opened the pupil and broke up the lens, leaving the pieces in the pupillary aperture, where they were absorbed. The patient saw well enough to resume working as a shoemaker.^{89, p. 78-80}

In December 1809, Hockin assisted Adams in the formation of an artificial pupil (iridotomy) in a man who had iris incarcerated in the wound following cataract surgery. The opening was successfully created, but the vision remained poor due to a retinal disorder.^{89, p. 26}

In 1811, Hockin performed the postoperative care for a 9-year-old girl with bilateral capsular opacification, treated surgically by Adams.^{89, p. 207-9} In Dublin, Hockin assisted in creating an artificial pupil, with placement of lens remnants in the opening, to prevent closure of the opening.^{89, p. 91-3}

Following his training, Hockin directed the ophthalmic hospital of Cork, Ireland, for 7 years.^{90,91} Hockin might have been encouraged to journey to Mexico by his uncle, who studied Mexican silver mines because of his relatives' investments.⁹²

Peru (1628).

As noted above, Francisco Drago of Genoa was almost certainly the oculist who travelled from Mexico to Lima to couch the cataract of government official Francisco López de Caravantes.¹

Vásquez in Lima by 1697.¹⁵

In 1568, King Felipe II established the Real Tribunal del Protomedicato in Peru. The examination cost 39 pesos for doctors and surgeons, but 19 pesos for oculists.¹⁶

Melchor Vásquez de Valenzuela (1660-1714) appears to have been an esteemed surgeon in Lima, Peru. He practiced at the Hospital de San Andrés,^{17, p.}

¹²⁸ and was teaching at the Real Universidad de San Marcos by 1681.^{17;18, p. 311-}

⁴ Vásquez was the Catedrático Regente de la Cátedra de Visperas de Medicina and Primario Protomédico in 1711.^{19, p. 534}

A completely different picture of Vásquez emerges from the satirical poetry of Juan del Valle y Caviedes (1645 - c. 1697).^{19, p. 543} Vásquez's neighbors in the Calle Nueva considered him so dangerous, they posted a sign to warn others.^{19, p. 65-7} His mother Elvira was a traditional healer, and possibly the inspiration for the street of the same name in colonial Lima.^{19, p. 529} Two potentially fictional associates are mentioned only by Caviedes: Vásquez's quack brother Elviro, and Leandro de Godoy, an Indian oculist ("*cirujano cura-tuerto*"). Vásquez was accused of shooting at Leandro but missing. In "To a doctor who cured the cataracts and blinded them worse than they were before" (*A un Doctor Que Curaba las Cataratas y los Cegaba Peor de lo Que Estaban*), after mentioning Vásquez, Caviedes wrote:¹⁹

"por punzar las cataratas	"to puncture the cataracts.
la niña del ojo punzas	the pupil of the eye you puncture.
pero ¿quién en la ocasión	but who having the chance,
punzar las niñas se rehusa?"	to penetrate the pupils would refuse?"

Dominica (1650).

In 1650, on the island of Dominica, one "Mr. du Parquet" was on the verge of travelling to France for treatment of a film on his eyes, when a Carib arranged to have his wives perform a cure.^{112, p. 41} The women "washed his eyes with cotton dipped into the juice of certain herbs. Then they wiped his eyes with their tongues" and several days later the "speck" fell off his eyes.^{112, p. 41}

Venezuela (1793).

Extraction in Caracas by 1793.

The establishment of the Protomedicato in Venezuela in 1777 specified that the Protomédico regulated oculists.³⁰ The subsequent March 1793 Arancel issued in Caracas by the Protomédico Felipe Tamariz included a surgical fee schedule which listed 50 pesos for "*extraer la catarata*" (extraction) and 25 pesos for "*abatirla*" (couching).^{30, p. 564-5}

Cataract surgery was present in the region with the return of José María Vargas from Puerto Rico to his home in Caracas in 1825 (see below).

Cuba (1793).

Rivas in Havana in 1793.

On June 6, 1793, in the *Papel Periódico* of Havana, the physician Fernando Rivas of Rome advertised both couching and extraction of cataracts ("*la operación de batir, o extraer las cataratas*").^{31, p. 114}

Nissen in Havana in 1813.

On September 12, 1813, Juan Federico Nissen, a German physician and oculist who had recently arrived in Havana, performed cataract extraction on both eyes of Antonio de la Rosa, a 52-year-old mason originally from a town near Seville, but a resident of Havana for 22 years. Vision had been lost for several years before the surgery. Eight days after the operation, the dressing was removed. At two weeks postoperatively, de la Rosa removed the dressing, and the patient could go out to the street. The newspaper editor verified that with a convex lens, the patient could read numbers the size of a pea.^{31, p. 115}

Esparragosa in Guatemala (1797).

Narciso Esparragosa y Gallardo (1759-1819)^{42, p. 13} of Venezuela earned a degree in philosophy from the University of Caracas in 1785, where one of his classmates was Felipe Tamariz.^{42, p. 13; 43, p. 246} Esparragosa began medical studies there, but in 1788 moved to Guatemala where he had a rich uncle,^{42, p. 13} and completed his medical studies at the University of San Carlos in 1789.^{38, p. 210; 43, p. 246} Esparragosa studied under Flores,^{35, p. 251} and was the first to earn a medical degree in Nueva Guatemala.^{42, p. 14} Esparragosa was serving at the Royal Hospital de San Juan de Dios as early as 1791.^{35, p. 263}

After Longinos arrived in Guatemala, Esparragosa began performing cataract extractions. On November 22, 1797 Esparragosa demonstrated for the *Sociedad Económica* the first 3 operations for cataract extraction (“operaciones de extraer las cataratas”): bilateral surgery on Juan Jose’ Alvarez, age 18, absolutely blind for 5 years, and the left eye of Anacleto Arias, age 40, blind for 8 years. The long duration of blindness speaks to the lack of availability of cataract surgery. The members of the *Sociedad* verified that the patients were able to distinguish the colors and classes of objects placed before them. The two were presented to the general public to permit verification. The notice reported that this difficult operation is done in the “most cultured countries of Europe”.⁴⁴

On January 21, 1798, Esparragosa restored the vision of Antonio Palacios, age 70, who was frail, and had small, sunken eyes, and had longstanding blindness. The operation in his left eye succeeded. The patient was presented to the secretary of the *Sociedad*, who verified that the patient could distinguish objects as expected for such an elderly man. The professor offered to cure others blinded by cataracts.⁴⁵

His student Pedro José Molina underwent a surgical examination in 1802. Molina praised extraction over couching.^{35, p. 295} Rather than the original extraction technique of Jacques Daviel (1696-1762), which enlarged the keratome

incision with right- and left- curved scissors, Molina favored the technique of Georges de la Faye (1699-1781). De la Faye introduced the first cataract knife, in 1752, and the first cystotome.^{2, p. 271} The knife had a rounded cutting edge, which permitted the incision to be made without scissors.^{2, p. 168-271} Molina also described the instruments of Pierre Guérin (1740-1827) and Demours.^{35, p. 295} In 1769, Guérin described a device which completed the cataract incision by means of a spring when placed on the eye.^{2, p. 317} Guérin also used an Anel syringe to intraocularly inject a mixture of $\frac{2}{3}$ water and $\frac{1}{3}$ alcohol to irrigate cortical remnants.^{2, p. 244} Although the father Pierre Demours (1702-1795) did not operate, in contrast with his son Antoine P. Demours (1762-1836), both Demours described cataract knives similar to that of de la Faye.^{2, p. 190-302} In 1811, the town council cited the importance of cataract surgery as one of the reasons to support the College of Surgery.^{35, p. 299} Interestingly, Molina played a major role in the independence movement, and became president of the new nation in 1823.^{46, p. 874-5}

In 1798, Esparragosa developed an elastic loop made of whale bristle to provide fetal traction during difficult deliveries.^{35, p. 278} In 1801, he developed a catheter for the removal of bladder stones.^{35, p. 278} Esparragosa was the chair of surgery at the University from 1796 until 1805, when he led the newly formed Royal College of Surgery at the General Hospital in Guatemala City.^{35, p. 292}

In 1802, Mociño forwarded to Esparragosa instructions for smallpox vaccination to be used for publication, as Esparragosa edited medical information in the *Gazeta*.^{35, p. 246-7} Esparragosa made an attempt at smallpox vaccination in December 1802, but the vaccine had no effect.^{35, p. 247-8} He performed the first successful vaccinations in Guatemala in May 1804, with material delivered from Havana by a private citizen.^{35, p. 255} Esparragosa vaccinated 9000 people in 45 days.^{35, p. 256} In 1815, Esparragosa published instructions for the prevention of the spread of the disease.^{35, p. 257-8} Esparragosa was the Protomédico in 1808^{35, p. 239} and died in 1819.

Puerto Rico (1801).

Budet in Puerto Rico by 1801.

In 1801, José María Budet of Toulouse, France, requested permission to practice in the Faculty of Medicine, Optics (“*óptica*”) and Obstetrics.^{50, p. 22} In this context, *óptica* might imply eye surgery. Though he had passed all required examinations, his credentials had been intercepted by the enemy English who lurked along the coast. The town council of San Germán issued a report recommending that Budet be permitted to practice on the island, because he was Roman Catholic, had taken an oath of fidelity, and no other doctors on the island had these skills.^{50, p. 22}

Vargas in Puerto Rico by 1817.

José María Vargas (1786-1854) was born in La Guaira, now part of Venezuela.^{65, p. 19; 66-67} He graduated as a physician from the Universidad Real y Pontificia de Caracas in 1808.^{65, p. 19; 66} He began practicing medicine, but also became involved in the movement for Venezuelan independence, for which he spent most of 1813 in prison.⁶⁶

In late 1813 he was released by rebels, and immediately set off for Europe for medical training, first in Edinburgh, and then in London.⁶⁶ There, he was appointed to the Royal College of Surgeons, and was awarded a diploma of Surgeon-Oculist at an eye hospital.^{67, p. 6} He also trained in France.⁶⁷

In 1817, he arrived in the Puerto Rican capital of San Juan.⁶⁸ On the island, he categorized the flora and fauna, and established a botanical garden.⁶⁵

In about 1819, Vargas performed an enucleation (“*la extirpación del ojo*”) in Dominga Rios, a 14-year-old with left eye pain from “*un fungus hematodes*”, which most likely described a tumor. This is the first surgical enucleation in Latin America with which we are familiar.^{65, p. 26} (Although some sources state that the explorer Diego de Almagro had an “enucleation”, it seems that he lost his eye from an arrow, rather than a surgery).^{69, pp. 50-51}

An 1823 account of practitioners in the capital identified Vargas as a physician, surgeon, dentist, and “*oculista*”.^{50, p. 21} In 1824, he operated on a man’s maxillary tumor. The patient also noted haloes around lights, but another “Dr. Greek” attributed this symptom to cataract. Postoperatively, the patient developed a lacrimal fistula, which Vargas also treated surgically.^{65, p. 27}

Vargas may not have been the only cataract surgeon in Puerto Rico. In 1829, on Puerto Rico, the surgeon Francisco Oller set a fee schedule which mentioned 200 pesos for cataract surgery, 60 pesos for enucleation (“*la amputación de un ojo*”), and 32 pesos for pterygium.^{50, p. 23}

Vargas returned to Caracas in 1825.^{68, p. 26} At the University, he taught a course and published a manual on ophthalmology.^{65, p. 19} Vargas definitely performed couching. His surgical equipment included the needles for couching (“*abatir la catarata*”) of Beer, Richter, Scarpa, Adams, and Saunders.^{67, p. 260-}

¹ Vargas once operated on a cataract which had ossified and resisted the needle.^{70, p. 190} In a 48-year-old man who sustained a white cataract following a childhood injury, Vargas dilated the pupil, and considered depression and extraction, but instead elected to perform the discission operation of John Cunningham Saunders (1773-1810). The needle was used to rupture the lens capsule. On the third day, the upper half of the cataract was absorbed, and the patient could count fingers.^{65, p. 21-2}

Vargas undoubtedly was familiar with cataract extraction, but we do not know how often he performed the procedure. He had a forceps to extract (“extraer”) pieces of opaque capsule. His surgical instruments included a corneal knife (“*cuchillo*”), and the keratome (“*cuchillo keratótomó*”) of Wardrop, which Vargas indicated were for evacuation of aqueous in cases of ophthalmia.^{67, p. 260-1} Vargas considered extraction of a traumatic cataract, as noted above,^{65, p. 21-2} and mentioned that the aqueous humor reformed after cataract extraction (“*extracción de la catarata*”).^{70, p. 186}

Vargas’ practice extended well beyond cataract surgery. His lecture notes in anatomy were published in 1837 and 1847.^{66,70} He used modern medical equipment, such as a microscope,⁶⁶ and a stethoscope.^{67, p. 260-1} Vargas also had equipment for operating on lacrimal fistulas, and Maunoir’s scissors for performing artificial pupils (iridectomies).^{67, p. 260-1} His description of glaucoma, as having a fixed, blue-green pupil (“*azulado y opalescente*”), and a sclera and cornea which are rigid (“*rígidos*”),^{70, p. 190} is typical of the period, and consistent with angle-closure glaucoma.^{71,72} Vargas described eye exercises for a patient with strabismus.^{65, p. 22} He also described a 30 to 35-year-old man, who was a slave, with right eye ptosis, amaurosis, and mydriasis who was found at autopsy in 1829 to have a pituitary tumor.^{65, p. 22-6} He also described the course of a 66-year-old man found at autopsy to have a lacrimal tumor.^{65, p. 26} Vargas operated on a conjunctival cyst in a 10-year-old boy, who was a slave.^{65, p. 20}

His inaugural speech to the surgical class of 1832 observed: “And there is no longer a shortage in the principal cities of Venezuela of surgeons who return to the light the unfortunate man who from a gutta serena or cataracts had been condemned to pass the rest of his days buried in darkness. What sweet satisfaction is that of restituting a useful man to his occupation, the care of his family, and societal relations!”^{67, p. 245}

Vargas’ contributions extended well beyond clinical practice. He was elected rector of the Universidad Central de Venezuela in 1827.^{65, p. 19} Vargas eliminated religious and racial barriers to medical education.⁶⁶ In 1829, he was appointed the first director of the newly formed Sociedad Económica.⁶⁶ In 1835 and 1836, he served as the second president of Venezuela.⁶⁶ After 1852, his health declined, and he travelled to New York, where he died in 1854.⁶⁶

Brazil (1803).

de Oliveira in 1803 in Rio de Janeiro.

In 1802, surgeon José Soares de Oliveira at the Hospital Real Militar e Ultramar in Rio de Janeiro requested cataract surgery instruments. These arrived the next year.⁵¹, p. 82-3; 52, p. 512-3

Machado in 1816 in São Paulo.

In 1816, Francisco Alvares Machado de Vasconcellos (1792-1846) of São Paulo performed his first cataract surgery, a successful extraction (“*extracção da catarata*”) on a 54-year-old named Francisco Dias da Silva.⁵³ Machado learned surgery in São Paulo from Mariano João (or José) Leite do Amaral,⁵⁴ who trained in Coimbra.⁵⁵, p. 307 Machado had to visit several blacksmiths to have surgical instruments crafted.⁵⁴ In 1840, Machado became the president of the province of Rio Grande do Sul.⁵⁶

Argentina and Uruguay (1825).

In Buenos Aires, the decree of Viceroy Nicolás Francisco Cristóbal del Campo, the Marquis of Loreto, issued Nov 27, 1786 and published March 3, 1787, set a price of 19 pesos and 9 reales for the “examen de oculista”.⁹³ The medical particulars of the decree were likely determined by the acting Protomédico, Miguel Gorman, who was born in Ireland.

Cataract surgery was present along the Río de la Plata in the early 19th century. A soldier in Buenos Aires diagnosed with cataracts in 1817 was given a one-month medical leave. When the condition persisted, “a radical cure” was considered.⁹⁴

More definitive evidence comes from the case of Dámaso Antonio Larrañaga, a 54-year-old priest who had become “blind” from cataracts. Larrañaga was living in Montevideo on July 19, 1825, when one of his eyes underwent cataract surgery, allowing him to see the smallest objects.^{95,96} Unfortunately, he was again reported to be blind in 1827.⁹⁶

The area was visited by the surgeon Squier Littell, Jr. (1803-1886) in 1825 (Figure). In the early 1820s, Littell had trained in Philadelphia under Joseph Parrish,⁹⁷ who performed cataract surgery by couching and by division, in the manner of Adams.⁹⁸ Littell also preferred division over couching, and felt extraction was the least practical, even though he knew of preoperative pharmacologic

dilation.⁹⁹ Littell sailed for South America in June of 1825, and arrived in Buenos Aires, by way of Montevideo, on August 22, 1825.¹⁰⁰ Littell attempted to establish himself over a period of several months first in Buenos Aires, and then in Guayaquil.¹⁰¹ Having no success, he returned to Philadelphia, where he became known as a prominent ophthalmologist.¹⁰¹ It is not known if Littell performed eye surgeries in Latin America.



Figure. Portrait of Squier Littell, inscribed on reverse “Dr. S. Littell, Oct 21, 1824, Painted by Francis [Martin] Drexel”. Courtesy of Matthew Richards.

In 1843, bilateral cataract surgery was successfully performed in a one-year-old by Dr. Carlos Furst and Dr. Saxild of Buenos Aires, with the assistance of a ship’s physician, Dr. Hornemann, from the Ornen of Denmark.¹⁰² Congenital

cataract surgery was beginning to become more commonly performed in Europe and the United States.¹⁰³

In 1838, Victor Bruland (1817-1895) of France was appointed as a professor at Tolouse, which was staffed by the Montpellier faculty.^{104,105} He travelled to South America, and was appointed as a professor in Montevideo in 1843.¹⁰⁴ It has been postulated that Bruland might have performed the first cataract extractions in Uruguay.¹⁰⁶ In 1844, he moved to Buenos Aires.¹⁰⁴ Bruland's successful cataract surgery on Nicolás de la Colina, who had been blind for 5 years, was reported in the province of La Rioja in November 1860.^{104,105}

In September 1865, Daniel Iturriós reported performing cataract extractions in two patients in Buenos Aires.¹⁰⁷ Additional eye surgeries were reported by Iturriós in March 1866.¹⁰⁸ On January 22, 1865, Iturriós performed an extracapsular extraction of the soft cataract in one eye of Jorge Batista, a young man who had lost vision at age 10 months due to bilateral cataracts. The doctor considered the surgery a success.¹⁰⁸

A second eye surgery involved Maria de la Cruz, age 70, who had previously undergone bilateral cataract extractions. In one eye, chronic inflammation had produced anterior synechiae. On March 5, 1866, Iturriós performed an iridectomy. Iturriós performed both surgeries in homes, used instruments crafted by Francisco Bonino, and was assisted by his mentor Teodoro Alvarez,¹⁰⁸ who has conventionally been credited as the first to perform cataract extractions in Argentina.¹⁰⁹

Vargas in Colombia in 1827.

In 1827, Leon Vargas (flourished 1823-1833), a surgeon from Charalá, performed the earliest known cataract surgery in Colombia.¹¹⁰ The needle was fashioned by a blacksmith from San Gil.¹¹⁰ Várgas had studied under Pierre Paul Broc (1782-1848), of France, who arrived in 1823, and taught at the Hospital de San Juan de Dios in Bogotá.¹¹¹ By 1831, Vargas had contracted syphilis from cutting his hands during anatomic dissections.¹¹¹ Vargas was said to have died young, presumably by 1833 when he was no longer listed among current practitioners¹¹¹

Overview of Cataract Surgery before 1830.

Overall, 24 of 30 cataract surgery patients (80%) were men.^{10,24,31,39,44,45,47,48,53,65,75,76,96} It is not known if surgeries in men were simply more likely to be recorded. Three of 30 patients (10%) before 1830 developed cataracts in childhood, though none were congenital or were operated during childhood.^{39; 65, p. 21-2;}

⁷⁵ In 10 of 30 patients (33%), the cataracts were stated to have been present for years, which speaks to the inconsistent availability of the procedure.

Conclusions.

Cataract couching arrived quite early in Latin America—probably by 1611. However, only a handful of cataract couchers can be identified in Latin America before 1793. Cataract extraction was advertised in Havana and listed in a Caracas fee schedule in 1793, and might have been performed in Mexico before 1797. The earliest contemporaneously documented cataract extractions in Latin America were performed by Narciso Esparragosa in Guatemala in 1797. In addition to Esparragosa, American-born surgeons who established the academic teaching of cataract surgery included José Miguel Muñoz in Mexico and José María Vargas in Caracas. All three were entrusted to perform smallpox vaccinations.

The cataract surgeons we identified were all men. Migrant surgeons came from a variety of countries in Europe. Some surgeons born in the New World had instruments manufactured locally. Many were general surgeons, and made contributions outside medicine. Some were scientists, political leaders, or revolutionaries. Before the nineteenth century, especially, cataract surgery was not consistently available in Latin America.

References.

1. de Trazegnies Granda L. Sevilla y la Lima de Pizarro-Ensayo histórico. Sevilla: Bubok; 2012: 98, 116, 244.
2. Hirschberg J, Blodi FC. The History of Ophthalmology. Vol. 3. The Renaissance of Ophthalmology in the Eighteenth Century. Bonn: J. P. Wayenborgh Verlag, 1984:190-407.
3. Gay JA. Historia de Oaxaca. Escrita por El Presbitero. Vol. 2. Mexico: Dublan. 1881. pp. 185-186.
4. de Burgoa F. Palestra Historial de Virtudes y Ejemplares Apostólicos. México: 1670. Facsimile Edition. Publicaciones del Archivo General de la Nacion. XXIV. Edited by Rafael Lopez. Talleres Graficos de la Nacion. Mexico. 1934. pp. 354-355.
5. Leffler CT, Schwartz SG, Grzybowski A, Braich PS. The first cataract surgeons in Anglo-America. *Surv Ophthalmol*. 2015;60:86-92.
6. Libro Veinte y Uno de Actas de Cabildo. Que comienza El Primero de Julio de 1616 y termina En veintidos de Diciembre de 1617. Mexico: El Correo Español, 1905:98-108. cdigital.dgb.uanl.mx/
7. Libro Veintidos de Actas de Cabildo. Que comienza en Primero de Enero de 1618 y termina en 29 de Abril de 1619. Mexico: El Correo Español, 1905:42.
8. Peralta Rodríguez JR. Enfermedades oculares y su atención en la población novohispana de la ciudad de México. Siglos XVI y XVII. *Revista de Historia y Ciencias Sociales*. 2008;70:11-44.
9. Lanning JT. The Royal Protomedicato: The Regulation of the Medical Professions in the Spanish Empire. Durham: Duke University Press, 1985:35-368.
10. García E. Crónica de la provincia agustiniana del Santísimo nombre de Jesus de Mexico; libro quinto. Madrid: G. López del Horno, 1918:126.
11. Grijalva J. Crónica de la Orden de N.P.S. Agustín en las Provincias de la Nueva España. En Cuatro Edades Desde el Año de 1533 Hasta el de 1592. México: Editorial Porrúa, 1985:519-520.
12. Esteyneffer J. Florilegio medicinal de todas las enfermedades. Mexico: Carascoto, 1712:49-51.
13. Velasco Ceballos R. La Cirugía Mexicana en el siglo XVIII. México: Archivo Histórico de la Secretaría de Salubridad y Asistencia, 1946:185-94.
14. Hernández Sáenz LM. Learning to heal: The medical profession in colonial Mexico, 1767-1831. University of Arizona, 1994:168. arizona.openrepository.com
15. García Cáceres U. Juan del Valle y Caviedes: cronista de la medicina ; historia de la medicina en el Perú en la segunda mitad del siglo XVII. [Lima]: Banco Central de Reserva del Perú, 1999:117-8.
16. Alayza Escardó F. Historia de la cirugía en el Perú. Lima: Editorial Monterrico, S.A., 1992:84.
17. Romero CA, Toribio Medina J. Adiciones a "La imprenta en Lima" de José Toribio Medina. Lima: Fondo Editorial, Pontificia Universidad Católica del Perú, Academia Nacional de la Historia, 2009:128.
18. Eguiguren LA. Historia de la Universidad. Lima: Santa Maria, 1951:311-314.
19. Juan del Valle y Caviedes; Reedy DR, editor. Obra completa. Caracas, Venezuela: Biblioteca Ayacucho, 1984:65-544.
20. Rodríguez-Sala ML. Los Cirujanos de Hospitales de la Nueva España (siglos XVI y XVII). ¿miembros de un estamento profesional o de una comunidad científica? México: Instituto de Investigaciones Sociales. Universidad Nacional Autónoma de México, 2005:362-399.
21. Archivo General de la Nación de México. El gobernador de Veracruz sobre que se le permita al cirujano don Juan perez pasar a Tehuacan de las Granadas. Veracruz. Hospitales, GD54, vol. 23, exp. 22, [fol 292F-307V]. 1780-1781.
22. Rodríguez-Sala ML, Josefa Guzmán B. Los cirujanos del ejército en la Nueva España (1713-1820): miembros de un estamento profesional o una comunidad científica? México: Instituto de Investigaciones Sociales de la Universidad Nacional Autónoma de México, 2005:89-191.

23. Maldonado-Polo JL. El primer gabinete de historia natural de México y el reconocimiento del noroeste novohispano. *Estudios de Historia Novohispana*. 1999;21:49-66. www.biblioteca.org.ar/libros/92096.pdf
24. Antonio Valdés M. *Gazetas de Mexico, compendio de noticias de Nueva España. Que comprehend los años de 1790 & 1791*. Tomo Quarto. México: En la Imprenta de Don Felipe de Zúñiga y Ontiveros, 1949:385-386.
25. Peñalver y Cárdenas L. "The Bishop notifies...Joaguin [sic] Ablanado" October 17, 1795. Notre Dame Archives. archives.nd.edu/mano/17951017.htm
26. "19 February 1802...Don Juaquiu [sic] Ablanado inspected the equipment to help 'drowned victims.'" Abstracts of some colonial court records. Louisiana Department of Culture Recreation and Tourism Archives. www.crt.state.la.us/dataprojects/museum/spanishcolonial/31_Jan_8_1798_to_Jan_2_1804.pdf
27. Dinn GC. The Canary Islanders of Louisiana. Baton Rouge: Louisiana State Univ. Press, 1999:83.
28. Thompson CL. New Orleans in 1805. A Directory and A Census. New Orleans: Pelican Gallery, Inc, 1936.
29. Voekel P. Alone before God: the religious origins of modernity in Mexico. Durham: Duke Univ. Press, 2002:291.
30. Archila R. Historia de la Medicina en Venezuela: Epoca Colonial. Caracas: Vargas, 1961:264-565.
31. López y Carvajal L. Dr. Enrique López Veitia (Gran oftalmólogo y fundador de los Congresos Médicos de Cuba). *Cuadernos de Historia de la Salud Pública*. 1971; 54:114-115.
32. Escorza CM. Notas estadísticas en las referencias a José Longinos Martínez Garrido (1756-1802). *Kalakorikos*. 2010;15:339-360.
33. Engstrand IH. Spanish Scientists in the New World. The Eighteenth Century Expeditions. Seattle: University of Washington Press; 1981: 20-155.
34. Simpson LB. Journal of Jose Longinos Martinez. 1791-1792. Notes and Observations of the Naturalist of the Botanical Expedition in Old and New California and the South Coast. San Francisco: John Howell-Books; 1961: vii-xv.
35. Lanning JT. The Eighteenth-Century Enlightenment In The University Of San Carlos De Guatemala. Ithaca, NY: Cornell Univ. Press; 1956: 162-318.
36. Maldonado Polo JL. Las Huellas de la Razón. La Expedición Científica de Centroamérica (1795-1803). Consejo Superior de Investigaciones Científicas. Madrid 2001: 57.
37. Moll AA. Aesculapius in Latin America. Philadelphia: W. B. Saunders Company; 1944: 258.
38. Duran CM. Las Ciencias Médicas en Guatemala: Origen y Evolución. 2nd ed. Guatemala: Tipografía Nacional; 1945: 210-347.
39. Barron C. Canción que en honor de Don E. Fits Geraldo [Edward Fitzgerald]. Guanajuato [Mexico]: J.M. Carranico, 1824: 1-6.
40. Maldonado Polo JL. De California a El Petén: el naturalista riojano José Longinos Martínez en Nueva España. *Logroño: Gobierno de La Rioja*; 1997: 68-180.
41. Noticia del establecimiento del museo de esta capital de la Nueva Guatemala. Y ejercicios públicos de historia natural. [Guatemala]: Arevalo, 1797.
42. Lanning JT. Dr. Narciso Esparragosa y Gallardo. Varón Ilustre de Venezuela. Caracas: Publicaciones de la Secretaría General de la Décima Conferencia Interamericana; 1953: 13-15.
43. Lanning JT. The University in the Kingdom of Guatemala. Ithaca, NY: Cornell University Press; 1955: 246.
44. Esparragosa N. El veinte y dos de Noviembre, ultimo, el Dr. D. Narciso Esparragosa y Gallardo dedicó á la Real Sociedad Económica las tres primeras operaciones de extraer las cataratas... *Gazeta de Guatemala*. December 18, 1797. I(46):370.
45. Esparragosa N. Cirugia. El Dr. D. Narciso Esparragosa, Cirujano mayor del Real Hospital de S. Juan de Dios de esta ciudad continua con el mayor acierto sus operaciones de extraer la catarata. *Gazeta de Guatemala*. July 2, 1798, II(68):167.
46. Declaration of Independence of The United Provinces of Central America. British and Foreign State Papers: 1823-1824. London: James Ridgway. 1843. p. 874-5.
47. Morales y Quiñones J. "...al que necesite ser operado de la catarata..." *Gazeta de México*. XI(38):25 de junio de 1803: 6.
48. Morales y Quiñones J. "...destreza y conocimiento que en la extraccion de toda catarata tiene D. Joseph Morales y Quiñones..." *Gazeta de México*. 14 de julio de 1800: 13.
49. Neri-Vela R. La cirugía de la catarata en la Nueva España. *Cir Ciruj* 2000;68:211-4.
50. Soto SA. La oftalmología en Puerto Rico hasta el 1898. Barcelona: Artes Gráficas Medinaceli. Barcelona; 1977: 21-23.
51. Nava P. Capítulos da história da medicina no Brasil. Sao Paulo. Atelie Editorial, 2004: 82-83.
52. Curio de Carvalho P. Historico da hospitalização military no Brasil. *Revista do Instituto Histórico e Geográfico Brasileiro*. Rio de Janeiro: Imprensa Nacional; 1917: 512-3.
53. "Francisco Dias da Silva...". *Correio Paulistano*. São Paulo. August 27 1865. p. 1.
54. "Francisco Alvares Machado de Vasconcellos...". *Correio Paulistano*. São Paulo. January 31 1862. p. 2.
55. Herson B. Cristãos-novos e seus descendentes na medicina brasileira, 1500-1850. São Paulo: Edusp; 1996: 307.
56. Florence A. Um oculista Paulista do principio do seculo dezenove. São Paulo: Trabalhos do Primeiro Congresso Brasileiro de Ophthalmologia; 1936;1:155-6.
57. Leon N. La obstetricia en México. México: Tip. de la vda. de F. Díaz de León. 1910: 234-48.
58. Hernandez Saenz LM. Learning to Heal. The Medical Profession in Colonial Mexico. 1767-1831. New York: Peter Lang; 1997:93-212.
59. Sánchez JP. Jose Miguel Muñoz, the Mexican real hacienda, and the invention of the prototype modern prosthesis, 1816: "un documento inedito". *Coln Latin Am Hist Rev*. 1999;8(3):361-76.
60. Galindo EC. Miguel Muñoz: cirujano y partero, conservador de la vacuna, promotor de la enseñanza médica. *Rev Fac Med UNAM*. 2000; 43(4): 157-61.
61. Muñoz JM. Superior Gobierno Año de 1816. Testimonio del Expediente instruido a solicitud de Don José Miguel Muñoz Ayudante honorario del Cuerpo de Cirugia sobre que se le conceda privilegio exclusibo por diez años para fabricar piernas de palo con mobimientos y usos de los naturales. *Archivo General de la Nación, Mexico, Sección Protomedicato*, tomo 1, expediente 7, folios 368-86.
62. Lavista R. Las diversas especies de catarata y su tratamiento quirúrgico. Tesis. Escuela Nacional de Medicina. México, 1869: 62-72.
63. Van Young E. The Other Rebellion: Popular Violence, Ideology, and the Mexican Struggle for Independence: 1810-1821. Stanford. Stanford University Press. 2001:2.
64. Rodríguez-Paz CA. Las amputaciones en México desde el análisis de sus personajes históricos mutilados (1838-1945). *Cirujano General*. 2014; 36(2):126-9.
65. Espino JM. Historia de la Oftalmología en Venezuela hasta 1955. Caracas: Imprenta Nacional; 1955: 19-27.
66. Reverón RR. José María Vargas (1786-1854): Reformer of anatomical studies in Venezuela. *Clin Anat*. 2014;27(2):150-3.
67. Villanueva L. Biografía del doctor José Vargas. Caracas: Ediciones del Rectorado de la Universidad Central de Venezuela; 1986: 1-261.
68. Torres Gómez JM. El Dr. José María Vargas y Puerto Rico. San Juan, Puerto Rico: [publisher not identified], 1987: 26.
69. Lastres JB. Médicos y Cirujanos de Pizarro y Almagro. Lima. 1958: 50-51.
70. Bruni Celli B. Doctor José Vargas. Obras Completas. Compilación y notas de Doctor Blas Bruni Celli. Vol. I-Tomo II. Anatomía. Segunda edición. Caracas: Homenaje del Congreso de la República. 1986: 186-190.
71. Leffler CT, Schwartz SG, Hadi TM, Salman A, Vasuki V. The early history of glaucoma: the glaucous eye (800 BC to 1050 AD). *Clin Ophthalmol*. 2015;9:207-15.
72. Leffler CT, Schwartz SG, Gilberti FM, Young MT, Bermudez D. What was Glaucoma Called Before the 20th Century? *Ophthalmol Eye Dis*. 2015;7:21-33.
73. Almaraz RL. Epopeyas médicas de Guadalajara en el siglo XIX. Guadalajara, Jalisco, México. Gobierno del Estado de Jalisco. 1986. 1986: 45-6.
74. Fitzgerald E. "Eduardo Fitz Geraldo, profesor oculista..." *El Sol*.

México: March 4, 1828. p. 4. www.hndm.unam.mx/ 75. Fitzgerald E. "Mariano José Cortés que vive en la parroquia de San Pablo..." El Sol. November 15, 1824. p. 3. www.hndm.unam.mx/ 76. Fitzgerald E. "Llor eterno á tu nombre oculista sábio Fitz Gerald [sic]..." Águila Mexicana. Ciudad de México: August 30, 1826. p. 4. www.hndm.unam.mx/ 77. Fitzgerald E. "Doña Maria Josefa Mariñez, de edad de treinta años..." El Sol. México: July 8, 1827. p. 4. www.hndm.unam.mx/ 78. Fitzgerald E. "Cigarros medicinales contra afeciones asmáticas..." El Sol. México: February 21, 1828. p. 4. 79. Fitzgerald E. "...fuí conducido á esta prision" El Sol. México: Oct 24, 1831. p. 4. www.hndm.unam.mx/ 80. Fitzgerald E. "...del médico oculista dr. Fitz Gerald..." El Sol. México: September 21, 1831. p. 4. www.hndm.unam.mx/ 81. Robledo M. "...del estrangero Fitz Gerald..." El Sol. México: November 8, 1831. p. 3. www.hndm.unam.mx/ 82. Fitzgerald E. "El profesor oculista Sr. Fitzgerald..." El Sol. México: January 1, 1832. p. 4. www.hndm.unam.mx/ 83. Fitzgerald E. "El oculista D. Eduardo Fiz Gerardo..." Telégrafo. México: May 17, 1834. p. 4. www.hndm.unam.mx/ 84. "El dr. José L. Fremour de Oldivar, nativo de la ciudad de la Puebla de los Angeles..." El Sol. June 1, 1825, p. 4. 85. Castillo Crimm AC. De León, a Tejano Family History. Austin: University of Texas Press; 2003: 90-1. 86. Rather EZ. De Witt's Colony. Bulletin of the University of Texas. 1905;51:70-72. 87. Mexico, Select Marriages, 1570-1950 [database on-line]. Family History Library Film Number 605610. Provo, UT, USA: Ancestry.com 88. Hockin W. "Don Guillermo Hockin, oculista inglés..." El Sol. México: Sep 28, 1825. p. 4. www.hndm.unam.mx/ 89. Adams W. Practical observations on Ectropium or Eversions of the Eyelids with the description of a new operation for the cure of that disease : on the mode of forming an artificial Pupil [and] on Cataract. London: Callow; 1812: xi-209. 90. Hockin W. "el Sr. Guillermo Hockin sobrino..." Águila Mexicana. México: February 23, 1826, p. 4. www.hndm.unam.mx/ 91. The Commercial Directory of Scotland, Ireland, and the Four Most Northern Counties of England for 1821-22 & 23, Etc. Manchester: Pigot; 1820: 180. 92. Rawson (Adams) W. The present operations and future prospects of the Mexican mine associations analysed. London: Hatchard; 1825. 93. Viceroy Marquis of Loreto. Protomedicato. De las visitas y Exámenes que hace. In: Arancel general de los derechos de los oficiales de esta Real Audiencia, de los jueces ordinarios, abogados y escribanos públicos y reales de Provincia, medidores y tasadores y de las visitas y exámenes del Proto-medicato de este Distrito. Buenos-Ayres: En la Real Imprenta de Niños Expósitos, 1787:56. 94. García Belsunce CA (editor). Buenos Aires. 1800-1830. Salud y Delito. Vol. 2. Buenos Aires. Emece Distribuidora. 1977:122-123. 95. Gómez Ferreyra AI (ed.) Viajeros Pontificios al Río de la Plata y Chile (1823-1825). Cordoba: Gráficos Biffignandi; 1970: 635-642. 96. Tonda AA. Mariano Medrano. Su nombramiento de Vicario Apostólico en Buenos Aires. Santa Fe, Argentina: Castellvi; 1971: 164-169. 97. Kelly HA. A Cyclopedia of American Medical Biography: Comprising the Lives of Eminent Deceased Physicians and Surgeons from 1610 to 1910. Vol. 2. Philadelphia: W.B. Saunders Co.; 1912: 100-101. 98. Letocha CE. Did George McClellan commit malpractice? Doc Ophthalmol. 1995;89(1-2):85-91. 99. Littell S. A manual of the diseases of the eye. Philadelphia: John S. Littell; 1837: 150-180. 100. Wainsztein RD. ¿Fue el Dr. Squier Littell el primer oftalmólogo que visitó Argentina en 1825? Oftalmol Clin Exp 2010; 4(1): 39-44. 101. Hall AD. Memoir of Squier Littell, M.D. in Transactions of the College of Physicians of Philadelphia. vol. 9. Philadelphia: P. Blakiston. 1887. cdxlix-cdxl. 102. Vivanco EC. Un héroe civil, Carlos J. Furst: La vida de un médico danés al través de 25 años de historia Argentina. Buenos Aires: Tall. Gráf. del Atlántico; 1959: 137-138. 103. Leffler CT, Schwartz SG, Davenport B. Congenital cataract surgery during the early Enlightenment period and the Stepkins oculists. JAMA Ophthalmol. 2014;132(7):883-4. 104. Bruland de Coumau VB, Bruland J. A la Memoria del Dr. V. Bruland: Tucumán. Buenos Aires: Establecimiento Tipográfico "Roma". 1901:1-15. 105. Páez de la Torre C. Bruland: médico del Viejo Tucumán. Todo es Historia. 15(172): Sept 1981; 50-66. 106. Borrás Martínez A, Rizzi Castro M, Larrosa Vidal I. Historia de la Oftalmología en Uruguay. [Uruguay]: Poen; 2010: 20. 107. Tristán Ballester A (Editor). Revista de la Quincena. Revista Médico-Quirúrgica. 1865;2(11):172-3. 108. Iturríos D. Artículos Comunicados. Revista Médico-Quirúrgica. 1866;2(24):378-80. 109. Bilbao M. Buenos Aires desde su fundación hasta nuestros días: especialmente el período comprendido en los Siglos XIII y XIX. Buenos Aires: Imprenta de Juan A. Alsina; 1902: 394. 110. La medicina de antioquia. El repertorio colombiano. Bogotá: 1881;6 (34):248. 111. de Zubiría R. Los médicos de la familia Vargas. in: Antonio Vargas Reyes, y la medicina del siglo XIX en Colombia. Bogotá: Academia Nacional de Medicina; 2002: 26-28. 112. Du Tertre JB, McKusick MB, Verin P. Histoire generale des Ant-Isles habitées par les François. [General history of the Antilles occupied by the French] Vol. 2. Paris: T. Iolly, 1667. Human Relations Area Files. Available from: <http://hraf.yale.edu/> Accessed November 16, 2016. 113. Guerra F. Aztec medicine. Med Hist. 1966;10:315-338. 114. Ruiz de Alarcon H, Andrews JR, Hassig R. Treatise on the Heathen Superstitions That Today Live Among the Indians Native to This New Spain, 1629. 1st ed. Norman: University of Oklahoma Press. 1984. 115. Hernández F, Varey S. The Mexican treasury : the writings of Dr. Francisco Hernández. Stanford, California: Stanford University Press, 2000. 116. Sloane H. A voyage to the islands Madera, Barbados, Nieves, S. Christophers and Jamaica, with the natural history of the Herbs and Trees, Four-Footed Beasts, Fishes, Birds, Insects, Reptiles, &c. of the last of those islands. Vol I. London: printed by B. M. for the author, 1707. 117. Klineberg O. Notes on the Huichol. American Anthropologist. 1934;36 (3):446-460. 118. Hernández F, López Dávalos C, Jiménez F. Quatro libros De la naturaleza, y virtudes de las plantas, y animales que estan receuidos en el vso de medicina en la Nueva España, y la methodo, y correccion, y preparacion, que para administrallas se requiere con lo que el Doctor Francisco Hernandez. Mexico: en casa de la viuda de Diego Lopez Daualos, 1615. 119. Wauchope R. Handbook of Middle American Indians / 13 Guide to ethnohistorical sources ; part 2. Austin: Univ. of Texas Press, 1973. p. 83. 120. Ruiz de Alarcon H, Coe MD, Whittaker G. Aztec Sorcerers in Seventeenth Century Mexico: The Treatise on Superstitions by Hernando Ruiz de Alarcon. Albany. State University of New York at Albany. 1982. Pp. 234-5. 121. Vogel VJ. American Indian Medicine. Norman, Oklahoma. University of Oklahoma Press. 1970. 122. de Sahagún B. Historia general de las cosas de Nueva España. Vol. 3. México, Impr. del ciudadano A. Valdés, 1830. pp. 36-90. 123. No author listed. General Bravo...Dr. Fitzgerald, a native of the Emerald Isle. New Orleans Argus. October 1, 1828, p. 2. 124. Fitzgerald E. A letter to a member of the British Parliament, on Events Civil and Military, of the past and present year in Mexico, to the period of the Banishment of Gen. Bravo, ex-Vice-President of the Mexican Republic. By an Impartial Observer. Mexico. 1828.

12. A Chronology of Oculists and Cataract Surgeons in Russia (1627-).

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Michelle Zaichik, BA.¹

In 1627, an “eye man” is listed on the staff of the Pharmaceutical Prikaz (Aptekarskiy Prikaz) in Moscow (Zimin 2018).

In 1630, the name David Broon (Brun) appears in Moscow as an oculist (Unkovskaya 1999, p. 64; Zimin 2018). In 1631, his salary was 55r. He also received a horse and forage/allowance. In Sep. 1644, he was the only oculist at the apothecary (Unkovskaya 1999, p. 64). He practiced as an oculist in Moscow until his death in 1651 (Unkovskaya 1999, p. 64).

In 1630, Hans Johann Schultz’s name appears in Moscow as an oculist (Unkovskaya 1999, p. 64). In 1632, he served with the army. He was in Russia until 1644, when his vacant position was filled by Caspar Bartelov (Unkovskaya 1999, p. 64).

In 17th century Russia, the Czar and others of note received medical care from the Pharmacy Prikaz, which included an ophthalmologist and expanded considerably from 1631 to 1681: “if in 1631 it consisted of two doctors, five doctors, one pharmacist, one ophthalmologist, two interpreters (translators) and one clerk (and foreign doctors enjoyed special benefits), then in 1681 80 people served in the Pharmacy Prikaz, among them 6 doctors, 4 pharmacists, 3 alchemists, 10 foreign doctors, 21 Russian doctors, 38 students of medicine and chiropractic.” (Sorokina 1988, 12)

In 1658, Johann Malgorn (or Ivan Malgran), an oculist, was invited to Russia by a merchant at the Tsar’s request, and served in an army regiment (Unkovskaya 1999, p. 80-81). In 1659, he travelled to Moscow. In 1664, he served without proper provisions, but that year he petitioned for a house and regular salary, citing his army supervisor who could vouch for him. If the Russian government could not provide for him, he wished to leave Russia with the departing English ambassador, the Earl of Carlisle. Subsequently, Malgorn was given a house and a pay raise. In 1666, he diagnosed a man as having “dark water” which would result in blindness. He diagnosed a musketeer with cataract in one eye and “dark water” in the other. In May 1667, Malgorn was sent as an interpreter to the (Holy Roman) Empire for the embassy of Zhelyabuzhskii. In 1667, his wife petitioned to receive some of his pay since he was still abroad (Unkovskaya 1999, p. 80-81).

In 1658, Ergar (aka Jargart, Flor Dylakler, Drakler) was captured by the Russian army and sent to Moscow (Unkovskaya 1999, p. 79). He was a Lutheran from Zwickau, and called himself “a bushner, oculist in Latin”. He had learned from a German surgeon. The tsar

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ordered that people with blindness or urinary stones be sent to him to permit him to demonstrate his abilities. He was briefly imprisoned. In 1662, Ergar was sent to the regiments quartered in Novgorod. His Russian wife was not provided for in his absence. Ergar returned to Moscow in 1664 (Unkovskaya 1999, p. 79).

In 1669, the Pharmaceutical Prikaz tried to hire the ophthalmologist Yagan Erickson from Sweden, but he declined because of the low pay (see Sweden; Zimin 2018, p. 93).

In 1677, Johann Dietrich Schertling (Joh. Tirich Schartling; or Schwartling) was from Hamburg (Unkovskaya 1999, p. 88). He had done an apprenticeship in Lubeck (Marx 1970, p. 6). He also served as the Hofokulist at Königsberg. He came to Russia at the invitation of the Tsar in 1677 (Henning 1989; Unkovskaya 1999, p. 88). Schertling became an eye doctor in the Pharmaceutical Pricaz (Zimin & Gryzbowski 2018, pg 92). In April 1677, he submitted a list of people he had cured in Moscow, all of them women. He cured the wife of a prince after her eyes were damaged with ammonia, and a clerk's sister with trichiasis which he "cut out". He also gave a medicine to Princess Lobanova, who had glaucoma, permitting her to recover vision. He also removed cataracts from the eyes of the daughter of a priest (Unkovskaya 1999, p. 88).

In 1677, Fedor Dorofeev was trained by Johann Schertling as an oculist. Dorofeev is believed to be the first Russian oculist in Moscow (Zimin 2018).

In 1679, Yurii Gensen (or Martynov), who was Dutch, who was the son of a surgeon, and had studied in Wilno with one Christopher Satrib for 9 years (Unkovskaya 1999, p. 91). He also served in Sweden for 1 year, and at court in Brandenburg for 2 years. He treated wounds and eyes, and set bones. He was invited and planned to serve in Russia for 3 years starting in 1679, but died before expiration of the contract (Unkovskaya 1999, p. 91).

In 1679, Johann Wolf was recommended as an oculist by a physician from Lubeck when Willem Horsten of Russia travelled to Hamburg to recruit surgeons. However, it seems Wolf was not successfully recruited to Russia at that time (Unkovskaya 1999, p. 84-5).

In 1696, Bogdan Wagner arrived in Novgorod (Unkovskaya 1999, p. 96). He was an oculist who also treated internal chest diseases. He travelled to Moscow in 1696. In 1700, he was accused of assaulting and dishonoring a woman. In 1700, he served in the army in the Baltic and was captured in 1701 (Unkovskaya 1999, p. 96).

Before his London handbill estimated to be from 1700, an oculist with the initials J. A. K. advertised as "the Muscovy Occulist, Stone, and Rupture Master", who had practiced "First in Muscovy, next into Germany, and afterwards...came into Turkey" (see British Isles chapter).

In 1730, Friedrich Gottlieb Hoffmann, surgeon, dentist and barber, received permission from the official Blumentrost to practice dentistry and external treatments in Moscow. By 1738, when Hoffmann arrived in Reval, he noted that he had previously practiced there as an "*Okulist u. Zahnarzt*", and had just practiced in Moscow and St. Petersburg (Brennsohn "Estlands" 1922, p. 216; see Estonia).

On December 24th, 1770, Catherine II paid 1,219 rubles for an “optic glass rimmed in gold and decorated in diamonds” (Zimin & Gryzbowski 2018, pg 93)

Born in Riga in 1793, Peter Fedorovich Brosse originally studied the lungs but later changed his specialization to ophthalmology. He later wrote an article titled “Remarks on the current situation of ophthalmology and on its successes in Russia.” (Mitrofanov 2021).

In a letter from April 1804, Empress Elizabeth Alekseevna mentioned the need to do exercises for her eyes and that “nothing terrifies me so much as the thought of the loss of vision.” Her knowledge of eye exercises implies a prior consultation with an eye doctor. (Zimin 2018)

In 1805, multiple specialized eye beds were placed at the Golitsyn hospital. In 1812, a French hospital replaced these beds and general surgeons would also perform eye-related surgeries such as cataract removal. (Mitrofanov 2021)

In 1824, St. Petersburg opened an eye clinic. (Mitrofanov 2021)

In 1825, an ophthalmology department containing 10 patient beds was incorporated in the Golitsyn hospital in Moscow. (Mitrofanov 2021)

In 1830, a concert was given to support the Moscow Eye Hospital, with many notable persons in attendance – including Pushkin. The hospital was donation based and aimed to provide free eye care to patients until 1843, when it became paid. (Mitrofanov 2021)

In June 1838, the first corneal transplant in Russia was said to have been performed on a child, with a rabbit cornea donated, according to the article “Organic Restoration of the Damaged Corneal Membrane (*Membrana corneae*) of the Left Eye, Performed by Mr. Gen... in June 1838.” [Органическое восстановление поврежденной роговой оболочки (Гишса согпеае) левого глаза, сделанное г. Ген... в июне 1838 г.] written by V. S. Sarenko [В.С. Саренко], in the publication *Proceedings of the Society of Russian Doctors* [Труды общества русских врачей] in 1856. The operation was found to be lengthy, difficult, and unsuccessful. Sarenko had witnessed the operation, which was performed by resident Ю. Ф. Генкен [Yu. F. Genken] who worked at the St. Petersburg Hospital from 1838 to 1842 (Viktorov 2007, p. 11). If this operation really occurred in June 1838, it would precede the unsuccessful transplantation of a pig cornea to a 35-year-old man by Richard Kissam, which he stated occurred “in the fall of 1838” (Mannis 2018). One can criticize Sarenko for waiting until 1856 to publicize the Russian transplant, but Kissam of New York did not publish his account until March of 1844 in the article “Ceratoplastice in Man”. Perhaps, more scholarship could be done to evaluate both accounts and present the original evidence to a wider audience.

In 1842, Dr. Basov [Басова] performed successful rabbit corneal transplantation experiments at Moscow University (Viktorov 2007).

In 1850, Dr. Peter Fedorovich was appointed chairman of research for the Moscow Eye Hospital. He cared for the Moscow battalion when eye diseases spread and conducted research on topics such as albinism and eye tumors. (Mitrofanov 2021)

In 1857, Dr. Peter Brosse died and his nephew Wilhelm Fedorovich Brosse became the new chief physician. He also refused a salary and donated funds to the hospital budget. He would also conduct some eye visits in patient homes. (Mitrofanov 2021)

In 1876, I.Kh. Magavli [И.Х. Маразли] performed a corneal transplant operation on a human at the St. Petersburg Eye Hospital (Viktorov 2007).

On July 5th, 1960, ophthalmologist Svyatoslav Nikolaevich Fyodorov completed the first artificial lens implantation in the USSR, in the city of Cheboksary, on thirteen-year-old Elena Petrova. Forty years later, Elena Petrova was found to be working as a teacher with the same implanted lens still working on her eyes (Viktorov & Korsakov 2007).

References.

- Brennsohn** I. Die Aerzte Estlands. Vom Beginn der historischen Zeit bis zur Gegenwart. Ein biographisches Lexikon nebst einer historischen Einleitung über das Medizinalwesen Estlands. Von Dr. med. Isidorus Brennsohn in Riga. Riga: Bruhns, 1922: 254. **Henning** A. Zur Augenheilkunde im 18. Jahrhundert: Das «Okulisten-seculum» in Berlin. Fortschritte der Ophthalmologie. 1989;86(3):256-8. **Mannis** AA. Richard Kissam 1808-1861. In: Mannis MJ, Mannis AA. Corneal Transplantation: A History in Profiles. 2nd ed. Amsterdam: Wayenborgh. 2018. pp. 96-102. **Mitrofanov**, A. [Алексей Митрофанов] (2021, June 11). Первый главврач Московской глазной больницы вставлял «искусственные зеницы» и отказывался получать зарплату [The first head physician of the Moscow Eye Hospital inserted “artificial pupils” and refused to receive a salary]. Miloserdie. www.miloserdie.ru **Sorokina** TS. Историко-медицинские материалы в Большой медицинской энциклопедии [Citations on the history of medicine in the Great Medical Encyclopedia]. Sov Zdravookhr. [Сов Здравookhr] 1988;(12):63-6. **Unkovskaya** MV. Brief Lives: a Handbook of Medical Practitioners in Muscovy, 1620-1701. London: Wellcome Institute. 1999. **Viktorov** HE, Korsakov NV. (О.Н. Виктор; Н.В. Корсакова) КРАТКИЙ ЗКСКУРС В ИСТОРИЮ ОФТАЛЬМОЛОГИИ [Brief Discourse Into the History of Ophthalmology]. Cheboksary from the Ministry of Education and Science of the Russian Federation Federal Agency for Education, 2007. **Zimin** I, Grzybowski A. Spectacles in Russia from Moscow Tsardom to Russian Empire. XVII-first half of the XIX Century. Archiwum Historii i Filozofii Medycyny, (81) 92-99. 2018.

13. A Chronology of Ophthalmology in North America: (1663-1801).¹

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John Winthrop (1663). A 1663 letter of Abigale Montague of Hadley, Massachusetts to John Winthrop, the Younger, (1606-1676), Governor of the Connecticut Colony. Montague's 7-year-old daughter had suffered with "a thistilow [fistula] just by the corner of her eye by ye side of her nose." (Montague 1663) (Fistula was sometimes written "thistolow"). (OED) For the first year, she had "a clear watery rume [discharge], twickling out of her eye, and it was so hot that it would make the skin to come off". (Montague 1663) Eventually, the discharge thickened, and the dacryocystitis occluded the eye: "it gathered betwixt her nose and her eye to a great swelling in so much that her eye was blinded up", followed by facial cellulitis: "all that side of face & head was so swelled & in great pain that we were afraid she would have died: & then it broke on the side of her nose by her eye & run a pretty deal". She eventually developed "ye purples [purpura]", possibly from sepsis. They dressed the opening of the fistula, and after they placed a sponge on the fistula, it bled. They placed water in the fistula and "ye water came out at her nose & run down her throat in so much that it had liked to have strangled her". Her overall condition deteriorated: "She was formerly very full but now lean & poor..." They placed "bees wax & butter" on the fistula, but it "would not stick" so they had to secure a cloth over the opening. The girl did her best to cope: "She is naturally very lively although she undergoes a great deal of misery." Her mother requested to know if "sisapharilla [sarsaparilla] root" or "English barley boiled with cole herbs be good for her." (Montague 1663)

Sarsaparilla indicates *Aralia nudicaulis*, but has been occasionally used to describe other American plants (Vogel 1970, p. 359). Some native tribes made a lotion of the root to treat sore eyes. (Vogel 1970, p. 361) It might seem odd that the mother would ask the colonial governor a medical question. However, Winthrop wrote two scientific articles, and mentioned the "Bark of a Tree" in Nova Scotia and New England, with "a liquid matter like Turpentine...of a very sanative nature, as I am informed by those, who...have often tried it." (Winthrop 1670)

A woman Montagnais healer (1684). Gabriel Druilletes (1610-1681) of France served as a Jesuit missionary in New France (Campeau 1966). While on a hunting expedition with the native Montagnais (Inuu) in late 1643, at the age of 33 years, Father Druillettes' eyes were bothered by the smoke in the lodges (Campeau 1966). He began stepping on the feet of others in the camp. Finally, he lost his sight altogether: "The Savages were surprised...when they saw that...he suffered such pain that his strength failed him. They consulted among themselves whether they should not wrap him up like a parcel, tie him on their sleds, and haul him like the rest of their baggage." At this, Druillettes laughed, and suggested they instead provide a child to guide him. Next, "They held an assembly

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concerning his disease...if he would submit to their remedies, he might be cured...Thereupon a woman who was selected to effect the cure, rose from her place and said to him: ‘Go out of the Cabin, my Father; open thine eyes, and look at the Sky.’...this fine oculist armed with a bit of knife blade, or of rusty iron, scraped his eyes till a little humor flowed from them. Never had the poor Father suffered so much. The hand of the operator was not as light as a feather, and she possessed no more skill than science.”

Druillettes prayed and asked the natives to do the same. In the middle of the Mass “a bright ray suddenly opened the eyes of the poor blind man” and he henceforth experienced no further pain or vision loss. Druillettes’ attribution of his condition to the effect of smoke might be accurate, but given the time outdoors in the snow, a solar keratopathy might have contributed.

Table. Ophthalmic Healers in the Caribbean (1687-1801).

Dates	
1680-1719	Sloane on Jamaica (1687)
1720-1759	Morphy on Montserrat (1751)
1760-1800	Stork on Jamaica (1760); Jericho on Antigua, Montserrat, St. Kitts (‘72), Jamaica, Santo Domingo (‘86); Juan Peré on Santo Domingo by 1779. Bartlett on Bermuda (1785), Tortola (1794); Degrauers (1791) Jamaica. Frederick on Santo Domingo (1792); Miller on Santo Domingo, Guadeloupe (1792); Devèze on Santo Domingo (1793); Fernando Rivas on Cuba (1793); Joaquin Alonso Ablanado Arajavo on Cuba (1794); Brevitt on Guadeloupe, Antigua (1796).
1801-	Leprilete on Guadeloupe (1801); José María Budet on Puerto Rico (1801)

Puerto Rico, Cuba, and Mexico are covered elsewhere (Leffler, Wainsztein 2017, 2024).

Hans Sloane (1687). Hans Sloane (1660-1753) of England practiced as a young physician on Jamaica in 1687. Sloane merged his own medical and scientific observations with those of previous naturalists, such as Francisco Hernández de Toledo. Although Jamaica was claimed by Spain after its exploration by Columbus in 1494, the British captured the island in 1655. Sloane reported that the Spanish abandoned the northern side of the island because in this region “Ants are said to have killed the Spanish Children by eating their Eyes when they were left in their Cradles...”(Sloane 1707, vol. 1, p. lxxviii)

Sloane recounted the histories of many ophthalmic patients on Jamaica (Sloane 1707, vol 1, p. XC). He had been told that the diseases and treatments would be substantially different in the New World. However, he soon found that his European medicines and cures were quite effective. Moreover, the patients had faith in his methods, complied well with treatment, and refrained from “judging harshly in case the Person died.”(Sloane 1707, vol 1, p. XC)

Sloane recounted the 1688 story from Jamaica of “Dr. Rook’s Wife”, 35 years old, who “lost entirely the sight of one of her Eyes, and with the other could very hardly perceive any thing...The Pupil of one stood always wide open, and that of the other on looking at distance or near Objects, scarce alter’d, contracted or dilated its self...” Sloane “order’d her to be Bled by Cupping with Scarification in the Shoulders, to be blister’d in the Neck, to be purg’d...” He also ordered thyme, sage, rosemary, and millipedes, all by mouth. Millipedes were a favorite therapy of Robert Boyle, a friend of Sloane’s. Sloane reported that she eventually could “read Bibles of the smallest Print.”(Sloane, 1707, vol 1, p. CIV). We cannot be certain of the diagnosis in this case of asymmetric myrdriasis. The vision loss seems more extreme than would be expected with an Adie’s tonic pupil. Sloane does not describe

the pain and redness which anticipated in angle closure glaucoma, but the description could be incomplete.

On the Madeira Islands (on his journey to Jamaica), Sloane examined a 35 or 40 year-old clergyman who had been shot with “small Shot, which lighted about his Temples”. The patient subsequently lost vision completely in one eye, which had “a Cataract (which I saw) grown in it. The other Eye (which is usual, when one is hurt) decaying so much that he could scarce see any thing with it.” Sloane understood that eye trauma could cause contralateral loss of vision. Sloane postulated that the shot “in all likelihood had weakened the Eye, made a small breach or (lying near it) Compression of the Optick Nerve.” Sloane treated with bleeding and millipedes, and “white vitriol water, outwardly dropt on the Eye, to eat away the Films as much as might be.”(Sloane vol 1, 1707, p. 13)

M. St. Hilaire and the Natchez “Great Sun” (1720s). Antoine-Simon Le Page du Pratz (1695–1775) of France recorded his life in the early 1720s near Fort Rosalie, in the Louisiana territory. He experienced a “fistula lacrymalis...which discharged an humour, when pressed...”(Le Page du Pratz 1947, pp. 42-43) The French surgeon M. St. Hilaire, who had practiced for a dozen years at the Hôtel Dieu at Paris, recommended cautery (“use the fire for it”) before the nasal bone “would become carious”. (Le Page du Pratz 1947, pp. 42-43) Before du Pratz could decide whether to have the operation, the Natchez leader (“Great Sun”) happened to see the swelling on the eye, and sent a native healer. This physician pressed his “simples” (medicines) together in a ball, and placed the ball in water, in which du Pratz soaked his eye twice daily for 8 to 10 days.(Mooney 1932, p. 54) The “fistula” resolved completely.(Le Page du Pratz 1947, pp. 42-43)

Cotton Mather (1724). Cotton Mather (1663–1728) wrote a chapter entitled “The Oculist” in his medical manual, *The Angel of Bethesda*, which was not published until centuries later. This manual mentioned “cataracts”. Mather recounted the story that Rhazes refused cataract surgery in old age because he had seen enough of the world. Mather viewed “spectacles” and “Hand-glasses” as a blessing. Mather cited European authors, but provided no evidence that he knew of oculists or cataract surgeons in the New World (Mather 1972, pp. 155-160).

A New Jersey “Oculist” (1735). The Weekly Mercury in Trenton reported in October 1735 that “a certain person who lives near the Yardley ferry has lately turned oculist,” and that “an experiment upon Mr. Benjamin Randolph has caused him to become quite blind and in great pain.”(Walker 1929, vol. 2, p. 526)

John Tennent (1736). According to physician John Tennent (c. 1700-1748) of Williamsburg, who wrote a collection of home remedies: “Common Sore Eyes may be cur’d by washing them with Breast Milk, warm Sage Tea, or with Rose Water...”(Tennent 1736, p. 65) For fever with headache and “inflammation in the Eye”, Tennent advised to “bleed 10 Ounces...purge with the Decoction of Mallows, and 3 Spoonfuls of Syrrup of Peach Blossoms” and apply a “Poultis” of “Sage, Wormwood, and Rue” with nutmeg, and “Blister” near the site of the pain.(Tennent 1736, p. 12-13) Tennent also recommended that “In case a film shou’d grow over the Sight of the Eye, occasioned by a Blow, a sharp Humour, or other Accident, you may take it off...Dry Humane Dung in the Sun...and having reduced it to a very fine Powder, blow it thro’ a Quil Two or Three Times a Day into the Eye...”(Tennent 1736, p. 64).

Table. Artificial (prosthetic) eyes (1738-1801).

Year.	Oculist Name and Comment.
1738.	"...artificial Eyes...Supply'd...by Capt. Joseph Prince, at his House in Milk Street Boston." (Prince 1738)
1772	James Graham. Philadelphia. (Graham Aug 15, 1772)
1790.	"Mons. De La Volatile...His artificial eyes are of a very beautiful assortment, brilliant black, languishing blue...with or without eyebrows." (De La Volatile 1790) in Charleston.
1791.	Richard Cortlandt Skinner (d. 1834). "Dr. Skinner...Surgeon, Dentist, and Oculist", claimed to be "the only operator in America that substitutes or sets Artificial Eyes." (Skinner 1795) He practiced in Philadelphia (1788), New York (1791-1795), Hartford (1795), Springfield (1806).
1792.	Raymond Frederick. New York and Baltimore. "puts in artificial eyes resembling the natural, and which give no pain nor lay the patients under any constraint." (Raymond July 26 1792)

Benjamin Franklin (1738). As with so much of early American life, ophthalmology was influenced by the leadership of Benjamin Franklin. Early settlers had to receive spectacles imported from England. Franklin's Pennsylvania Gazette carried advertisements for these spectacles. Among the earliest to advertise spectacles was Franklin himself in 1738 (Franklin May 25, 1738).

Avoidance of indoor smoke was one of the advantages claimed by Franklin for his stove, or "Pennsylvanian Fire-Places" (Franklin 1744). Franklin noted: "Great and bright Fires do also very much contribute to damage the Eyes..." He also noted: "This Fire-place cures most smoaky Chimneys, and thereby preserves both the Eyes and Furniture."

One of Franklin's greatest accomplishments was proving that lightning was electricity. This realization allowed him to invent the lightning rod. Franklin noted: "Before I leave this Subject of Lightning, I may mention some other Similarities between the Effects of that and those of Electricity. Lightning has often been known to strike People blind." (Franklin 1750) Indeed, lightning strike can produce vision loss from cataract, optic neuropathy, or central nervous system injury (Norman 2001). Franklin continued by describing his experiments affecting several animals "by the Electrical Shock". He noted "a Pullet [hen] struck dead in like Manner, being recover'd by repeated blowing into it's Lungs...on Examination appear'd perfectly blind." (Franklin 1750) It seems that Franklin performed successful mouth-to-mouth resuscitation on a hen.

Eyebright (euphrasia) was discussed as a remedy for eye inflammation in the *Medicina Britannica*, re-published in Philadelphia in 1751 by Benjamin Franklin. The editor of this American edition, botanist John Bartram of Philadelphia, noted that he had never seen euphrasia growing in America, though he had tried to sow it, and others had erroneously called other American plants by this name (Short 1751, pp. 89-91). Bartram might have had a particular interest in this type of medicine, as he wrote to Franklin: "My eye sight fails me very much", and that he was turning over matters to his son for that reason in 1771. Franklin responded by mailing spectacles to Bartram (Franklin 1771). Whether euphrasia really grew locally or not, medicines based on the plant were advertised. For instance, in the 1770s, physician John Sparhawk (1730-1803) of

Philadelphia sold “Essentia euphragiae”, to be given topically, which “...removes all Specks, Films, Mists, and Suffusions, cures all Runnings of watery and foul Humours...” (Sparhawk 1770) Sparhawk advised in cases of “...Inflammation or Redness in the Eyes, to take off ten or twelve Ounces of Blood.”(Sparhawk 1770)

In 1752, Benjamin Franklin argued to physician Cadwallader Colden that light was a wave, rather than a particle, that proceeds to the eye:

“May not all the Phaenomena of Light be more conveniently solved, by supposing Universal Space filled with a subtle elastic Fluid, which when at rest is not visible, but whose Vibrations affect that fine Sense the Eye...?...why must we believe that luminous Particles leave the Sun and proceed to the Eye?”(Franklin 1752)

Colden replied that, as pointed out in “Sir Isaac Newton’s optics”, a particle theory could better explain how an opaque object obstructs the passage of light to the eye.

A petition presented to the Assembly of Pennsylvania in January 1750-51 called for the establishment of a hospital, which led to the Pennsylvania Hospital.(Packard 1901, p. 322) The petition was written by Benjamin Franklin, although he was not a signatory.(Packard 1901, p. 322) The petition noted the need to help those “deprived of Sight by Cataracts”.(Packard 1901, p. 322) The result of these efforts was the establishment of the Pennsylvania Hospital, the first in the English colonies, in 1751 (Morton 1897, frontispiece). Franklin and physician Thomas Bond (1712-1784) are considered the hospital founders (Morton 1895, p. 6). As the hospital reports from the 1750s mention “Eyes disordered”, “Gutta serena”, and ophthalmia, but not cataract,(Roberts 1754) it is not clear that the hospital was initially able to deliver on the promise made to the legislature.

Franklin spent much of the pre-revolutionary period in England on political assignments. At the end of 1776, he moved to Paris as the American ambassador to France. He mentioned his invention of “double spectacles” (bifocals) while in Paris in 1784 (Letocha 1990), and returned to America the next year.

Cadwallader Colden and the Mohawks (1744). In 1744, physician Cadwallader Colden of New York wrote about witch hazel (*Hamamelis virginiana*): “I learned of the use of the *Hamamelis* from a Minister of the Church of England who officiates among the Mohawk Indians. He saw an almost total blindness occasioned by a blow cured by receiving the Warm Steam of a Decoction of the Bark of this Shrub through a Funnel upon this place. This was done by direction of a Mohawk Indian after other means had for a considerable time proved ineffectual. I have since experienced the benefit of it used in the same manner in an Inflammation of the eye from a blow.”(Vogel 1970, p. 395)

Archibald Spencer (1744). On May 29, 1744, the journal of William Black recorded that he attended in Philadelphia “a Philosophical Lecture on the Eye, &c. by A. Spencer, M.D., in which he endeavoured to account for the Faculties, the Nature and Diseases of that Instrument of Sight...”(Cohen 1990, p. 44) However, the notes of John Smith of Philadelphia recorded of a lecture, believed to be the same, with respect to eye diseases merely that “The Globe of the Eye Consists of 6 Coats & 3 humours. For an Inflammation

in the Eye, Cupping by the side of it is Good.”(Cohen, 1990, p. 47) Thus, the lecture seems to be more about the physics of light and electricity than about medicine.

James Adair (1750). Trader James Adair lived with the Natchez, the Chickasaw, and other native tribes between 1735 and 1750. Adair wrote of one interaction:

“Formerly, an old Nachee [Natchez] warrior who was blind of one eye, and very dim-sighted in the other, having heard of the surprising skill of the European oculists, fancied I could cure him...I had just drank a glass of rum when he came to undergo the operation...he observing my glass, said, it was best to defer it till the next day.—I told him I drank so on purpose.”(Adair 1775, p. 173) Adair also gave the patient “several drinks of grogg.”(Adair 1775, p. 173) Then Adair “applied my materia medica, blowing a quill full of fine burnt alum and Roman vitriol into his eye. Just as I was ready to repeat it, he bounded up out of his seemingly dead state, jumped about, and said, my songs and physis were not good.”(Adair 1775, p. 173)

John Morphy (1751). Surgeon John Morphy performed a couching on Montserrat in 1751 (Leffler Survey). Because the operation caused the patient “anguish”, he ran through the streets, and the cataract rose again. When the cataract spontaneously fell back into the vitreous a year later, the patient could finally see (Leffler Survey).

Table. Cataract Surgery and Oculists in New York and New Jersey (1754-1801).

Years.	Surgeon. Region.
1754	Margaret Powell. Treated cataract (likely nonsurgical).
1762-73.	John Levine. “Oculist...Cures all Disorders in the Eyes.” 1762-67.(Levine May 3, 1762. 509:3; Levine Oct 3, 1763; Levine 1767) From Ireland. Had lived in England.(No author Apr 30, 1773)
1768	Couching instruments. William Shipman, 1768 (Shipman 1768). Joel and Jotham Post. “Surgeons’ instruments for...couching.”, 1794 (Post May 25, 1794).
1773.	James Jay. Rye, New York.
1783	Richard Bayley. Extraction.
1784	Charles McKnight (1750-1791). “Died...as a surgeon and oculist, perhaps unequalled in this country.”(No author Nov 25, 1791) (Date began eye surgeries estimated).
1788	Charles Crooke (1764-1788), Poughkeepsie (No author listed, Sep 12, 1788). Estate sale: “Surgeon’s Instruments...Couching”.(No author, Sep. 8, 1791).
1792	“...an operation,...performed by Doctor William Stillwell, surgeon,...upon an eye, that had been blind for three years past...he now sees the distance of 20 or 30 rods...”(No author, Feb 16, 1792) Middletown, New Jersey.
1793	Aphakic spectacles. “James Rivington has...for the accommodation of persons, with couched & weak eyes....spectacles.”(Rivington Apr 26, 1793) 1793-1794.(Rivington Jan 10, 1794) Joel Benson...Optician...spectacles for cataract eyes. 1798.(Benson July 23, 1798)

All practitioners in New York City unless another location specified.

Johann Ludwig Mayer (1754) and Christian Ernst Thilo (1759). Lutherans from Salzburger emigrated to establish Ebenezer, Georgia, in 1734. One third of the settlers

died in the first two years (Boltzius 1975, p. 1-2). Two 20-year-old “blind boys” born in the early days of the settlement cooked, fetched water, and cleaned dishes under the supervision of a preceptor (Boltzius 2009, vol. 2, p. 645). In 1749, a “rich and well-known planter” near Charleston with poor vision for two years requested *essentia dulcis ad oculos*, an expensive eye ointment containing gold dust, which had already helped him to recover vision in one eye. The settlement pastor, Johann Martin Boltzius (1703-1765), declined to provide further ointment, and suggested that the planter travel to visit the settlement’s doctor or surgeon (Urlisperger 1989, vol 13-14, pp. 39-182).

Boltzius himself suffered a variety of symptoms which we might propose as coming from at least two conditions. Historians have long believed that Boltzius developed malaria at some point. As early as October 1736, Boltzius suffered from “severe dizziness and cramps” (Boltzius 2009, vol. 1, p. 183). At that time, he also wrote of “the fever that has befallen all of us.” (Boltzius 2009, vol. 1, p. 178). He used “essentiam antihypochondriaca or spleen opening essence”, “pillulae purgantes” and “balsamus cephalicus nervus” for these conditions (Boltzius 2009, vol. 1, p. 183). The medication for the spleen suggests that perhaps he already suffered from malaria.

Malaria can result in retinal hemorrhages and edema (Schemann 2002), but we believe Boltzius suffered from an unrelated eye condition, possibly ocular rosacea. In the Winter of 1753, Boltzius began to get “inflammation” in the left eye (Boltzius 2009, vol. 2, pp. 551,605). The eye “inflammation” was initially accompanied with “a head cold” in which “the head was full of fluid.” By May of 1754, the inflammation had subsided, and Boltzius described his left eye as having “a thin film over the eyeball” (Boltzius 2009, vol. 2, p. 602), and later as “covered with a white film” (Boltzius 2009, vol., 2, p. 678). Boltzius wrote that the worse eye was “just as sensitive as the healthy one”, perhaps to indicate that light perception was still present. Unfortunately, his surgeon Johann Ludwig Mayer (1715-ca. 1763) was too “timid” to operate (Boltzius 2009, vol. 1, p. 309; vol. 2, p. 602). Boltzius was unable to write in his journal for some time (Boltzius 2009, vol. 2, p. 602). By the spring of 1755, medicines and “glasses” had been sent from Europe to help the pastor cope with his eye condition (Boltzius 2009, vol 2., p. 624).

By 1759, symptoms consistent with cerebral malaria were prominent: he had “dizziness”, both eyes were “cloudy”, he felt “pressure in them”, with his head “full of fluid” (Boltzius 2009, vol., 2, p. 688-72). He had occasional hearing loss, with “ringing and roaring of the ears” (tinnitus) (Boltzius 2009, vol. 2, p. 678). His physician Christian Ernst Thilo (1708-1765), trained in Halle, recommended exercise, and moderation (Boltzius 2009, vol. 1, p. 211). Boltzius submitted to bloodletting 4 times yearly. Thilo judged his blood to be “proper consistency, but every time a whitish film, like a powder, covers over what is collected in the bowl against the edge” (Boltzius 2009, vol. 2, p. 678; possibly leukocytosis) As the intended delivery of medicines to the settlement had not arrived for several years, they again requested medicines, including *essentia dulcis* (Boltzius 2009, vol. 2, pp. 668-72). Thilo deemed treatment futile, and Boltzius feared that medicines might damage the right eye. His right eye was normally “clear”, but became “cloudy like a glaucoma” when he had “catarrh” in his “nasal passages” (Boltzius 2009, vol. 2, p. 678). Glaucoma in much of the European ophthalmology literature of the 18th century had begun to specifically represent angle closure glaucoma (Leffler OoJ). However, in a colloquial sense, Boltzius probably simply meant that the cornea appeared lighter. He also noted “rosiness or redness” of the face (Boltzius 2009, vol. 2, p. 678). In September 1762, he

had an episode of fatigue, nose bleeding, fever, coughing (Boltzius 2009, vol. 2, p. 722-3). Rosacea could explain the facial skin changes, conjunctival injection followed by a corneal pannus over the left eye, and intermittent keratitis in the right eye. Cerebral malaria might account for the leukocytosis, vertigo, and tinnitus.

Margaret Powell (1754). The earliest advertisement for cataract treatment in the English colonies was the 1754 notice of Margaret Powell of New York, who “undertakes the Cure of all Rhumatic Pains...and Cataracts of the Eyes...”(Powell 1754) We suspect the treatment was non-surgical.

Thomas Webb (a patient, 1759). Many soldiers injured or lost an eye during the American wars of the 18th century, including the Seven Years War, known in America as the French and Indian War (1756-1763). Thomas Webb (1725-1796) of England served British General James Wolfe as a young lieutenant on July 31, 1759 at the Battle of Montmorency, near the city of Quebec (Baker 1976, p. 53). Webb saw a flash of light as a musket ball passed through one of his right orbital bones, “burst the eyeball”, and then passed through his palate, and was swallowed (Baker 1976, p. 53; Pearse 1884, p. 522). Believing Webb was dead, his fellow soldier said “He needs no help; he is dead enough”. Webb found the strength to reply “No, I am not dead.” After his recovery, Webb wore a green patch over his missing right eye. He became a Methodist clergyman, and returned to England in 1778 (Baker 1976, p. 66). When his remains were moved in 1972, their identity was confirmed by the green eye patch (Baker 1976, p. 68).

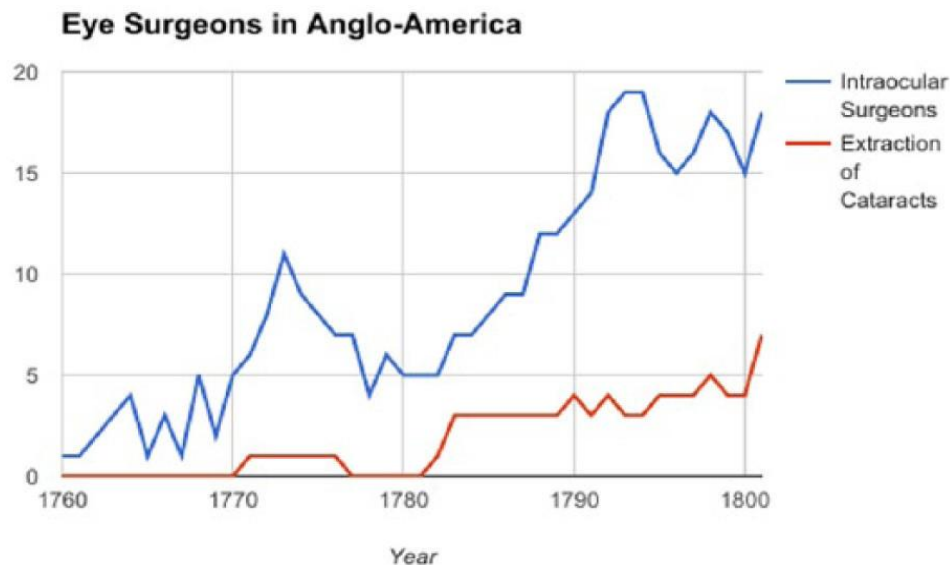


Figure. Number of identified cataract surgeons, total (couching plus extraction, top line), and those who preferred extraction (bottom line), by year. Each shopkeeper who advertised couching instruments in a given year was counted as one surgeon, with the assumption that the shopkeeper likely sold at least one set of instruments to a surgeon who did not advertise.

Table. Itinerant Oculists and Cataract Surgeons (1760-1801).

Years.	Name. Comment.
1760-64	William Stork. Jamaica. Annapolis, Philadelphia, New York, Boston.
1770-74	James Graham. Williamsburg, Annapolis, Baltimore, Philadelphia, New York.
1770-81	Anthony Yeldall. Philadelphia, New York.
1771-91	Frederick William Jericho. Extraction. Lesser Antilles, 1771-76. Philadelphia, Baltimore, Richmond, Norfolk, Charleston, Boston, New York, 1783-85. Jamaica 1785-91.
1772-76	Stephen Little of Portsmouth New Hampshire. Couching in New York in 1772.
1773-77	Francis Mercier (Louis DeBuke). Baltimore, Philadelphia, New York, Boston, 1773-1777.
1774-83	“Mr. Dastugue Physician and Surgeon, lately arrived from France...propose[s] that the Physicians and Surgeons in this Town...form a Corps to build an Amphitheatre...to teach Osteology, Truss, Physiology...” in Boston 1774-1775.(Guerra p. 533-6) “Richard Durfort Dusturge. Surgeon from Europe...Oculist”.(Dusturge June 16, 1777). Mentioned practice as an oculist only in 1777 in New York.(Guerra p. 647) Studied at Charity Hospital and Hotel Dieu in Paris.(Dusturge Feb 11, 1783)
1775-84	“Dr. Ludwig...from Germany, practices medicine and surgery, dentist and oculist.” Treats “eye trouble” Philadelphia (1775), (Guerra p. 508-687) Yorktown (1776-1783), Baltimore (1783-4). (Ludwig Dec 5,1783) No mention of the eye after 1775.
1778	Friedrich Carl Pflug. Philadelphia and New York.(Guerra 1962, p. 636; Pflag 1778). “Surgeon of the Hessian Grenadiers Battalion...operation for the cataract.”(Guerra 1962, p. 636)
1779	“Deui Cheau” (possibly mistranscribed) in Baltimore, Philadelphia 1779. (Deui Cheau Mar 30, 1779) “A French doctor and surgeon.” “Oculist, is skilled in Midwifery,...He also has had great success at Baltimore.”(Deui Cheau, April 1779)
1790-98	George Kiesselbach. Extraction (probable). Charleston, Norfolk, Boston, Newport, New York, Philadelphia (1790 to 1798)
1792-95	Bildad Beech, Whitestown in New York, and Cheshire, Connecticut.
1793-99	Jean Devèze, of France. In Philadelphia. Had come from Santo Domingo. Operated for cataract in 1795.
1801-06	Charles F. Bartlett. Extraction. Newport, New York, Hartford. Darien.

Table. Cataract Surgery and Oculists in Philadelphia (1761-1801).

Year.	Surgeon. Regions.
1763-1792	Couching instruments. “Smith and Harris...Surgeons Instruments...Eye probes.” 1763, (Smith March 10, 1763) Nathaniel Tweedy, 1764, 1766, 1768. (Tweedy 1764,1766,1768). John Sparhawk, 1772-3, 1781 (Sparhawk 1772, 1773, 1781). Pennsylvania Packet printer. “couching instruments.” 1780. (Penn Packet Aug 1, 1780) “William Smith...instruments...couching”, 1782-3. (Smith Jan 19, 1782; 1783) Oliver C. Hull. 1792. (Hull Jan 21, 1792) Goldthwait and Baldwin. 1792. (Feb 7, 1792)
1768	John Flemor. “...knowledge...acquired in some of the most eminent hospitals in Europe...cures most disorders in the eyes, particularly the cataract, by a new operation of couching.”(Flemor March 3, 1768)
	Charles Henry Forget. “Doctor Forget...Skill as an Oculist” (Forget Aug 8, 1768; Forget Feb 9, 1769)
1774	“Doctor Adams, Oculist...pearls, films, rheums, or dull sight, without operation”(Adams Mar 7, 1774)
1779-1808	William Shippen, Jr. acquired couching instruments, 1779.(Shippen December 23, 1780)
1784-1796	John Foulke, MD (1757-1796). Had cataract instruments in his estate (Pole 1796).
1785-1794	Joseph Goss. Advertised cataract surgery in 1785 (Goss 1785).
1789-1818	Caspar Wistar couched Humphrey Marshall in 1793.
1793-1794	“Andrew Girinzer, German Physician and Surgeon...diseases incidental to the eyes...practiced...in Paris”(Girinzer Dec 2, 1793) Served Emperor Joseph in the “war against the Turks”(Girinzer Dec 2, 1793)
1795-1837	Philip Syng Physick. Extraction.

William Stork (1760). William Stork was the oculist to Augusta, the Princess of Wales, from 1751 to 1754 (Leffler Survey). After practicing in Yorkshire for several years, Stork advertised his services as an oculist in Kingston, Jamaica in 1760 (Leffler Survey, Stork 1760). In his later editing of Bartram’s botanical guide appended to his own journal, Stork cited Sloane’s work on Jamaica (Stork 1767, pp. 17-64). Thus, Stork might have been inspired to follow Sloane’s example as an oculist on that island, and would have been familiar with the ocular ailments and treatments described by Sloane. Stork arrived in Philadelphia in 1761, and then practiced in cities between Annapolis and Boston until 1764 (Leffler Survey; Stork Sep 6, 1764). Stork then promoted the settlement of Florida (Leffler Survey). The William Stork of Florida was indeed the “oculist”.(DeBraham 1971, pp. 184-5; Teller 1954) Stork died there in 1768 (Leffler Survey, DeBraham 1971, pp. 184-5; see British Isles chapter).

Table. Surgeons who treated corneal opacities (1761-1801).

Year.	Surgeon. Comment.
1761	"Doctor Hugh Tomb...lately arrived from Ireland...was educated at the university of Edenburgh, and has practised in Physick, Surgery & Midwifry, for three years in Ireland...he engages to cure...filtrims on the eyes, commonly call'd Pearls..." Philadelphia. (Tomb 1761)
1771	James Graham. A woman from Bound-Brook, New Jersey described Graham "curing my son of a film over his right eye, occasioned by the small-pox, so that he has now recovered his sight perfectly."(Graham Nov. 1771).
1773	Francis Mercier. "...undertakes to cure...Purls, Redness..." (Boduin 1775)
1774	Anthony Yeldall. "An Eye Powder...for taking off specks, films, webs, &c. (if not mixt with the horny or outward coat) of the eye"(Yeldall June 1, 1774).
1776	Frederick William Jericho. "Remedy for the Gravel,...Films, Spots, Weakness of the Eyes" (Jericho 1776; see text)
1778	Frederick Carle Pflag (Friedrich Carl Pflug) Philadelphia, New York. (Guerra 1962, p. 636; Pflag 1778).
1791	Peter Degrauers. Jamaica. (Degrauers 1791).
1793	Mason Fitch Cogswell. Hartford. One Miss Williams of Brooklyn, New York requested "the removal of a film or an opaque tumor from the eyes."(Cogswell 1924, p. 64)
1799	"Dr. G. W. Adlersterren, from Lancaster, Formerly Surgeon in the Hospitals of the Emperor of Germany...He undertakes to cure...Film over the Eye...He practices Surgery and Midwifery." Alexandria, Virginia. William Baynham. Essex, Virginia. "I had operated on your Servant Tom's Eyes...The tumor in the left Eye is...incurable; and a growing film in the right threatens to overspread the transparent Cornea."(Baynham Aug 21, 1799)
1801	Charles F. Bartlett. Newport.(Bartlett Dec 1801) "...an experienced operator in the eyes, by removing blindness occasioned by cataracts, films, &c"(Bartlett March 1804)

New Jersey Medical Society (1766). American physicians first learned of cataract extraction from books. In July 1766, the New Jersey Medical Society established a fee schedule (adopted formally in 1784) which set the price for "Couching or extracting the cataract [£3] ...Cutting the Iris [£3]...Fistula Lachrymalis [£1, 10s]"(Wickes 1879, p. 69-72) The language of the entire fee schedule, including the order of the operations and even the spelling, was taken from the 1761 surgical text of Samuel Sharp, from Guy's Hospital in London (Sharp 8th ed. 1761, p. 231-260). We doubt that American surgeons were actually performing cataract extraction or iridectomy in 1766.

William Shippen (1762). In 1749, Benjamin Franklin had helped to found the Academy of Philadelphia, later known as the College of Philadelphia, a predecessor of the University of Pennsylvania. This institution began offering medical training in the 1760s. The first professor of surgery was William Shippen, Jr (1736-1808). Shippen had first studied with his physician father, and then travelled to Europe for additional training. While in London, the younger Shippen recorded in his diary on August 25, 1759 "...saw Mr. Way and Paul couch 2 men in old way by depression."(Shippen 1951, p. 19) Lewis Way was the surgeon to Guy's Hospital, (Shippen 1951, p. 14) and Joseph Paul was the surgeon to St. Thomas's Hospital.(Shippen 1951, p. 35) Shippen watched John Hunter "extract a Steatomatous Tumor from [the] upper eyelid."(Shippen 1951, p. 28) Shippen also read Percival Pott's

treatise on the Fistula Lachrymalis.(Shippen 1951, p. 27) Upon his return to Philadelphia, Shippen began offering private medical lectures in 1762. Notes from a student of Shippen's 1766 lectures do not relate to anatomy or surgery of the eye, but the notes might be incomplete.(Blake 1974)

"Doctor [William] Shippen" was listed as the "Professor of Anatomy and Surgery" on the notice of the first medical graduation ceremonies of the College of Philadelphia on June 21, 1768.(No author, June 30, 1768) The notice began "This day...may be considered as having given birth to Medical Honours in America".(No author listed, June 30, 1768) Ten students who had attended lectures at the Pennsylvania Hospital were awarded the "degree of Bachelor of Physick".(No author, June 30, 1768) The ceremonies featured "A dispute, whether the Retina, or Tunica Choroides be the immediate seat of Vision." One student correctly argued that the retina received the image, but another argued "that the Retina is incapable of the office ascribed to it, on account of its being easily permeable by the rays of light: and that the Choroid-coat, by its being opaque, is the proper part for stopping the rays and receiving the picture of the object."(No author June 30, 1768)

In 1777, Shippen was appointed the Director of Hospitals for the Continental Army. In 1779, he ordered equipment including "1 case of couching instruments" from the apothecary general, Dr. Andrew Craigee.(Shippen Dec 23, 1780) A dispute ensued about whether these were for the use of the Army or him personally.(Shippen Dec 23, 1780) Shippen was court-martialed for mismanagement, but was narrowly acquitted.

Table. Cataract Surgery in New England (1767-1801).

Year.	Surgeon. Regions.
1767	James Thomson. Hartford. Cases of hypopyon and mydriasis.
1769.	John Bartlett, Charlestown, Rhode Island (Bartlett 7/31/1769).
1770.	Hall Jackson, Portsmouth, New Hampshire.
1773.	Benjamin Church .(Nagy 2013, p. 13).
1774.	Couching instruments. In Boston. Nathaniel Kidder (1774).(Kidder February 17, 1774) Thomas Bartlett (1797)(Bartlett May 23, 1797).
1782	Lewis Leprilete. Extraction. Providence, Norton, Franklin.
1788.	John Warren, in Cambridge.
1791	Gustavus Baylies in Newport, Bristol 1791 to 1803.(Baylies Aug 27, 1791; Baylies Feb 5, 1803) "Couching the Cataract..."(Baylies Apr 22, 1797)
1792	Nathaniel Miller. In Franklin. Extraction.
1798	Nathan Smith. Cornish.
1801	Mason Fitch Cogswell. Hartford.
	Horace Senter. Extraction. Newport.

Table. Cataract Surgeons and Oculists in the South (1768-1801).

Year.	Surgeon. Regions.
1768	Dr. De Lacoudre, Norfolk. He was trained in France by Drs. Guerin and Morant. He has a certificate from King George III. If you cannot travel to see him, you can send your urine, and he will analyze it, and return relevant medical information.
1779	John Allard. Charleston. "Expert in Surgery Dentist, Oculist..." (Guerra; Allard)
1785	William Baynham (1749-1814). Essex, Virginia.
1786	John Tyler (1763-1841), Frederick, Maryland.
1793	Gabriel N. Phillips. Edenton, North Carolina. Trained in New York.
1794	Joaquin Alonso Ablanedo Arajavo in New Orleans (1794-95 and 1802-05; see Latin America chapter).
1797	Nathan Brownson died in Riceboro, Georgia. His estate had couching instruments.
1798	Joseph Brevitt (1769-1839). Extraction. Baltimore.
1799	"R. C. Murray (Oculist) Murray...performs the different operations on the eye, has been successful in restoring a number of persons to sight that had been blind many years.(Murray Feb 27, 1799) Baltimore. Died 1801.

Table. Management of oculoplastic conditions, including lacrimal fistula (1771-1801).

Year	Surgeon and Disorder.
1771	James Graham, an itinerant. Patient Daniel Turner of Newark acknowledged "the cure...of a fistula lacrymalis of my left eye..."(Graham Nov. 1771).
1774	Samuel Clossey, in New York, lectured on anatomy relevant to lacrimal fistula.
	Francis Mercier, an itinerant. "Undertakes to cure...Fistula Lacrimalis." (Boduin 1775)
1776	Frederick William Jericho, an itinerant. (Likely medical) remedy for "Fistula Lacrimalis"(Jericho 1776) Performed an enucleation (see text).
1783	"Samuel Prentice [Prentiss]...in...Worcester...Cutting for the Fistula Lachrymalis."(Prentice Feb 6 1783)
1787	"Doctor Stoddard" resected an "atheroma", possibly a dermoid cyst, in Hudson, New York.(Stoddard July 13, 1787).
1791	Peter Degrauers . "...a safe operator for...Fistula lacrymalis" (Degrauers 1791).
1795	John Warren lectured on surgery for lacrimal fistula in Cambridge.

James Graham (1769). James Graham (1745-1794) was another prominent European eye surgeon in colonial America. Graham matriculated at the University of Edinburgh in 1761 (Syson 2008, p. 13), where anatomy and surgery were taught by Alexander Monro, junior and senior (Syson 2008, p. 17) By the time Graham married in 1764, he had established an

apothecary shop in Doncaster, England (Syson 2008, p. 23). Later in the 1760s, Graham spent time in the hospitals of Dublin and London (Syson 2008, p. 32).

Graham travelled to America, arriving at the end of the summer of 1769 (Syson 2008, p. 38). In January 1770, he advertised a “Lecture on the Eye” in Annapolis (Syson 2008, p. 39). By August 1770, he was advertising treatment of disorders of the eyes and ears, and of “female complaints” in New York (Syson 2008, p. 39; Graham Aug 23, 1770)

In May 1771, he “cured” 173 patients with “blindness, deafness, and female complaints” in Elizabethtown, New Jersey (Graham May 20, 1771). It may seem unusual that a professed oculist and aurist would also attend to female complaints, but, as we will see, upon his eventual return to England, Graham specialized in helping couples attain sexual pleasure and fertility. Hints of his subsequent career path can be found during his North American stay.

At the end of the summer of 1771, a theatrical competitor named Anthony Yeldall was attracting a great deal of attention in New York (see below). Perhaps for that reason, Graham relocated to Philadelphia in the fall, (Graham Oct 17, 1771) and published testimonials of patients successfully treated for “fistula lachrymalis”, “gutta serena”, and “a film over his right eye” from small-pox (Graham Nov 11, 1771). In April 1772, Graham published his first testimonial from a patient he couched, Mrs. Mary Rivel, who had been “blind of both eyes for two years.”(Graham April 20, 1772; Graham Apr 23, 1772) He next published the testimonial of a man “blind of both eyes with a confirmed Gutta Serena” who was now able to read (Graham May 25, 1772). Given his interest in beauty, it is unsurprising he would fit prosthetic eyes: “Those persons whose eyes are utterly perished, or sunk in their head, may have the deformity removed by artificial eyes, so curiously fixed and adapted to the orbits, as to have in appearance the beauties, motion, &c. of the natural eye in its healthy state.”(Graham Aug 15, 1772) After Graham’s departure, prosthetic eyes were not advertised again until 1790.

Graham’s next advertisement noted that “...seven [of his patients] had lost their Sight by Beards of Rye, and other Grain, getting into their Eyes in Time of Harvest, of these, three only have perfectly recovered.”(Graham Aug 29, 1772) The report also mentioned two patients he couched: “...a Gentleman advanced in Years was couched in one Eye, but the Operation proved ineffectual.”(Graham Aug 29, 1772) He also couched the “Son of Mr. Thomas Walling...aged Eleven, and who, for upwards of three Years, had been totally blind of both Eyes, was instantly restored to the sight of both.”(Graham Aug 29, 1772)

At the end of the summer of 1772, Graham announced that he was going to return to England in 1773, but that for a fee, he would instruct one student “regularly bred to the profession of physic or surgery” as an oculist and aurist.(Graham Sep 7, 1772) He treated “...squinting...blows or extraneous substances...tumours and excrescences...”(Graham Sep 7, 1772) Graham announced visits to Lancaster, York, and Reading (Graham Sep 30, 1772).

He also announced a lecture on the eye at “the Doctor’s apartments” and invited the public as well as “the faculty” to attend.(Graham Sep 30, 1772) The lecture enjoyed some success, because he was able to present it at “the College Hall” of the College of

Philadelphia, though it is not clear that the college endorsed or sponsored his talk.(Graham Apr 7, 1773) The lecture had three parts with “A Concert of Musick” during the intermissions.(Graham Apr 7, 1773) The first part consisted of anatomy, physiology, the pathway of light through the “Coats and humours of the Eye”, with “Refraction and reflection of the rays.”(Graham Apr 7, 1773) Graham addressed the “students in medicine and surgery” noting the “College of Philadelphia in the general field of literature, considered as equaling, and in the liberal profession of medicine as far surpassing, any other on the British continent of America.”(Graham Apr 7, 1773) The second part described the causes and cure of diseases such as “Cataract—Glaucoma—Gutta Serena—Inflammations...Films...Squinting...Short-sightedness—useful directions concerning spectacles...”(Graham Apr 7, 1773) Consistent with his ultimate career pathway, Graham provided an “Address to the ladies on the art of managing the eye...Beauty of a fine woman composed of numberless lesser beauties, of which the Eye is the chief.”(Graham Apr 7, 1773) This section seems to be a course on flirtatious glances and putting makeup on the eye. The third part of Graham’s lecture was about the “dignity and importance of physic and surgery”, and noted “...the pleasures of the eye as being more refined or spiritual” than those of the other senses.(Graham Apr 7, 1773)

In the Spring of 1773, he took a quick trip to Annapolis and Williamsburg.(Graham June 7, 1773) In Williamsburg, on May 5, 1773, a young legislator named Thomas Jefferson purchased “a ticket to Graham’s lecture on the eye”(Jefferson 1773). Jefferson’s interest was probably intellectual rather than personal. He seemed to suffer little in the way of ophthalmic complaints. He did write in 1763 that “...the loss of the whites of my eyes, in the room of which I have got reds, which give me such exquisite pain that I have not attempted to read any thing...” and continued “[My] eyes still continue [as red a]s ever, and if they were to begin to mend now...”(Jefferson 1763). Not until 1789, did he need to purchase a “set of reading glasses”(Jefferson 1789) In 1798, Jefferson wrote about “...a small cold which brought on an inflammation in the eyes...”(Jefferson 1798)

The newspapers recorded that “...Mrs. Cobb of Williamsburg, aged sixty-six, who for several years had been totally blind with a Cataract in each Eye, was couched by Dr. Graham...and in less than five minutes was restored to the blessing of sight in both Eyes.”(Graham July 15, 1773) The report called “Mrs. Cobb...the first patient on whom the Doctor has operated in a Cataract.”(Graham July 15, 1773) In fact, Mrs. Cobb was at least the fourth, if the newspapers were to be believed, but perhaps the message is that Graham had not performed many couchings. In addition, “The first patient with a Gutta Serena (a disease hitherto deemed incurable) was Miss Peggy Hay...She too was happily restored...”(Graham July 15, 1773)

Graham then travelled to Philadelphia, and then New York.(Graham June 7, 1773; Graham July 15, 1773) Here, he delivered his lecture on the eye, again inviting “the Faculty.”(Graham August 26, 1773) Graham perhaps was tiring of surgical practice, for he published the testimonial of Martha Cooke, of New York, whose cataracts he cured by “inward medicine and outward applications”, done “without cutting or any painful operation.”(Graham October 16, 1773) He arrived in Baltimore in October 1773.(Graham Oct 16, 1773) In December 1773, four days after the Boston tea party, he stopped off in Philadelphia before returning to England.(Graham Dec 20, 1773) Graham later wrote “I returned to England at the commencement of the eternal downfall of European power in America!”(Syson 2008, p. 70)

Upon his return to England, Graham initially resumed practice as an oculist and aurist, and re-published his testimonials from America in 1775 (Graham An address, 1775). Strangely, in the republication of his August 1772 advertisement, Graham claimed that the “Gentleman...had the cataract extracted” (rather than couched).(Graham Address 1775, p. 14) Graham still noted the lack of effect.(Graham Address 1775, p. 14) It seems that in the retelling Graham lied about the procedure performed, perhaps to appear current with procedures in vogue in Europe, but told the truth about the poor outcome. Perhaps due to a tighter regulatory environment, or a waning interest on his part, it seems that Graham performed no cataract surgery either before or after his stay in America.

In 1776, Graham publicized a budding interest in the curative powers of electricity and magnets.(Graham 1776, p. 7) He claimed that an interest in studying electricity in Philadelphia had motivated his travels to America (Graham 1776, p. 7). The reality is that he spent over a year in Maryland and New York before practicing in Philadelphia. Graham also claimed that he studied electricity in Philadelphia, and had benefited from the work of “the great prince of philosophers” (Franklin), who actually was in Europe at that time (Graham 1780, p. 58) Graham wrote that in America he had constructed an “electrical bed” which enhanced sexual pleasure, and which permitted a woman from Lancaster with reproductive issues to become pregnant (Graham 1780, pp. 58-60). His biographer accepted this case report at face value,(Syson 2008, p. 58-60) but there is reason to be skeptical. As Graham did not publicize any interest in electricity or magnets prior to 1776, there is no way to know if he was merely trying to appear to have more experience in this area, and associate his electrical work with Franklin.

Graham eventually combined his longstanding hobby of reproductive medicine with his newfound interest in electromagnetism, and transitioned to specializing in the treatment of sexual dysfunction. By 1780, he had constructed his “magnetico-electrical bed,-the first and only one that now is or ever was in the world”(Graham Sketch 1780, p. 47) In this “Celestial Bed”, couples could “Be fruitful, multiply, and replenish the earth” (Syson 2008, p. 184).

Isaac Calcott (1769). Isaac Calcott of Hamburg practiced in London before arriving in Providence in 1769 at the age of about 30 (Stiles 1901, vol. 3, p. 222; Calcott June 17, 1769). He was the seventh son of a seventh son,(Stiles 1901, vol. 3, p. 222; Calcott June 17, 1769) and treated many conditions, including “sore eyes”.(Calcott June 17, 1769) If patients could not travel, they could send their first morning urine to be evaluated.(Calcott June 17, 1769) Calcott was “decently dressed” but “the Faculty dispised him as a German Quack.”(Stiles 1901, vol. 3, p. 222-5)

Calcott treated a 7-year-old boy named Elizur Belden in about 1770 (Stiles 1901, vol. 3, p. 222-3) The boy had a fever since he was born, which was attributed to worms (Stiles 1901, vol. 3, p. 222) At the age of two, he began to get leg pain, which limited him to crawling, and inflamed eyes, with a conjunctival discharge, and after a year lost his vision (Stiles 1901, vol. 3, p. 222) About a month before these symptoms started, he had fallen on the ice, but his parents did not believe the fall to be related (Stiles 1901, vol. 3, p. 222). Around the time of his third birthday, his father took him to a pool at New Lebanon, and also to Boston, where the doctors put a powder in his eyes, which caused him a great deal of pain.(Stiles 1901, vol. 3, p. 222-223). Despite these treatments, he lost all vision

(Stiles 1901, vol. 3, p. 222) He had a protruding belly and “the thigh bone at the hip dislocated”.(Stiles 1901, vol. 3, p. 222)

Calcott treated the boy at the family home. Before the treatment, the boy was fearful as he sat on his mother’s lap because of his previous experience with doctors. Calcott asked his mother “whether she had Faith...that God could give more to one Man than to another?”(Stiles 1901 vol. 3, p. 222) When she responded in the affirmative, Calcott prayed, and “licked the eyes, first putting his Tongue into one Eye & then into the other Eye of the Child”(p. 223) for less than a minute, “and instantly the Child saw, & ever after continued to see well.”(Stiles 1901, vol. 3, p. 222-5) Calcott said one eye was perfectly cured, and the other partially so.(Stiles 1901, vol. 3, p. 222) Calcott licked the boy’s eyes again several times over the next few weeks, but all the effect came with the first treatment.(Stiles 1901, vol. 3, p. 222) The boy’s photophobia resolved. The treatment seemed to make the doctor fall ill.(Stiles 1901, vol. 3, p. 222-3) The day after the first treatment, Calcott provided the boy with a worm powder (Stiles 1901, vol. 3, p. 222-3). A little over a week later, a 10 foot long tapeworm “came away” (was excreted) with a reduction in the protrusion of the belly.(Stiles 1901, vol. 3, p. 223) The boy was healed, except “Lameness” which required “a staff”.(Stiles 1901, vol. 3, p. 223-5) He still always had “a weakly Constitution” and in 1786, he “was seized with a Bleeding from his Breast” (perhaps hemoptysis), and soon perished, at the age of 23.(Stiles 1901, vol. 3, p. 225) His parents recounted his story to Ezra Stiles, who officiated at the funeral.

We may never know what conditions affected the boy. Cysticercosis from tapeworm infection can cause hemoptysis,(Rabenjamina 2000), intermittent vision loss (Sharma 2015), with distribution to muscle tissue or the spine (Colli 2002). Perhaps he had multiple conditions. This case suggests that treatment with saliva might have been a component of Old World traditional medicine.

Calcott was admonished by Mrs. Belden for his alcoholism, and he wept, but said he could not control this “Vice”.(Stiles 1901, vol. 3, p. 223) In Middleton, he was “found drunk in the street—the Boys tarred & feathered him”, whereupon he was not seen again in Connecticut.(Stiles 1901, vol. 3, p. 223) He advertised in Boston and Portsmouth in 1773 (Calcott July 30, 1773).

John Bartlett (1769). An important step in the transmission of medical techniques was the performance of procedures by physicians born and trained in the New World. The earliest native-born and locally trained cataract surgeon identified to date is John Bartlett (1730-1795).(Ford 1915, vol. 2, p. 457) Though others might have preceded Bartlett, that he today is the earliest known is some measure of his prominence and pioneering spirit. His biography has never been written.

Bartlett was a fourth-generation Mayflower descendent (Wakefield 1995, p. 47-8; Hurd 1882, p. 509). His parents, Josiah (1701-1782) of Marshfield, and Mercy, moved to Lebanon Connecticut in 1726 (Wakefield 1995, p. 47-8; Waterman 1939, vol. 1, p. 60). Little is known about his father Josiah Bartlett (no relation to the signer of the Declaration of Independence) except that he owned a farm (Wakefield 1995, p. 47-8), was commissioned as a captain in the Goshen trainband (a local militia) in 1750 (Hoady 1876; Application 2011), and provided salt to the Continental Army during the American Revolution (Application 2011).

Medical training was often conducted within an apprenticeship. We do not know with whom John Bartlett received his medical education. The major surgeon in nearby Norwich was Joseph Perkins, who went to college at Yale (Thacher 1828, vol. 1, pp. 421-422). Bartlett spent four or five years in North Yarmouth (now in Maine), and married Susanna Southworth of that town in 1753 (Hurd 1882, p. 509; Webber 1905, p. 43).

During the French and Indian War, Bartlett served as regimental surgeon in the third regiment of Connecticut from May 11 to November 20, 1758 (Bates 1905, p. 52). The regimental officers serving with Bartlett included Eleazer Fitch, Benjamin Hinman, and Israel Putnam (Bates 1905, p. 52). Hinman, Putnam, and presumably the entire regiment, served in the theater around Lake George (Livingston 1905, p. 84-93). This theater involved heavy fighting with the French and their Native American allies. Smallpox was rampant (Livingston 1905, p. 69). Putnam himself was captured in August 1758, and nearly burned alive by "the Indians" before being rescued by a French officer (Livingston 1905, p. 93-94).

After Bartlett's wife died, he married Lucretia Stewart in March 1761 in North Stonington (Connecticut Church Record Ancestry.com; Stiles 1901, vol. 1, p. 195). In December 1767, Bartlett operated on a 50-year-old man with an inguinal hernia, or "Enteropiplocele", colloquially "a Burst", because "His Intenstines and Cawl had been fallen down into the scrotum." (Bartlett February 29, 1768) Bartlett made an incision "in the Groin" which allowed "the Intestines" to return to the abdominal cavity. (Bartlett February 29, 1768) Then Bartlett had "the Wound closed up with interrupted Suture." (Bartlett February 29, 1768) The patient recovered fully. In the era before antisepsis or anesthesia, this operation would have been difficult and risky. Hernia surgery was not generally available. In 1772, a Long Island man perished of inguinal hernia without operation, though one was considered (No author, Huntington 1773). Bartlett's hernia procedure may have been the earliest reported in the colonies, but it was not the first performed. Joseph Perkins had performed a surgery for inguinal hernia ("bubonocele") on Abiel Stark of Lebanon in 1764 (Young 1770; Thacher 1828, vol. 1, pp. 421-422). Upon the death of Stark in 1770 (from an unrelated stroke), the original surgery and autopsy were reported (Thacher 1828, vol. 1, pp. 421-422).

In 1769, Bartlett reported a lithotomy on a seven-year-old boy, several amputations, and "by couching Cataracts of the Eyes, has restored several to their Sight, from a State of total Blindness." (Bartlett, July 1769) On April 15, 1770, Bartlett and his wife transferred their membership from the Congregational church in Westerly to that led by Ezra Stiles in Newport. (Stiles 1901, vol. 1, p. 47) On April 27, Stiles prayed with Capt. Pollipus Hammond, before "Dr. Jno Bartlett performed upon him the Operation of couching or depressing a Cataract in his Eye." (Stiles 1901, vol. 1, p. 47) Stiles witnessed the surgery. (Stiles 1901, vol. 1, p. 47-48)

In January 1771, Bartlett performed the autopsy of a 17-year-old boy who died with calcifications in the kidney (Stiles p. 84; Bartlett May 16, 1771). Bartlett bemoaned the rarity of autopsies: "But, from a strange I know not what superstitious Veneration for the Dead, few Persons, in this Part of the World, have hitherto been induced to consent to an Operation of this Kind; and thus many Lives have been early lost..." (Bartlett May 16, 1771) The boy had passed a kidney stone at 4 years of age, but was then asymptomatic

until his 17th year of life.(Bartlett May 16, 1771) The young man had been “so great a Water Drinker” that he kept water by his bedside at night. As a brother had passed away of the same disorder, Bartlett investigated and found the well water created a “calculous concretion” on the inside of the family tea kettle.(Bartlett May 16, 1771) Bartlett believed the well water contributed to and accelerated the renal disorder. In 1772, Bartlett sailed with 14 persons to Dodges Island, Connecticut to perform smallpox inoculation, because this treatment was illegal in Newport (Stiles 1901, vol. 1, p. 297).

As the American colonies progressed towards revolution, some idea of Bartlett’s antipathy towards British royalty may be indicated by the fact that in 1775 he named his newborn son Oliver Cromwell (Stiles 1901, vol. 1, p. 534). Oliver was one of three sons who became physicians (Phelps 1860). In October 1775, Bartlett travelled to Connecticut, presumably to provide medical coverage for military activities (Stiles 1901, vol. 1, p. 626). In February 1776, Bartlett returned to Newport, where he was “appointed Chief Surgeon of the Brigade” of the Rhode Island militia (Stiles 1901, vol. 1, p. 660; Dolliver 1898, p. 138).

Given Bartlett’s leadership in major surgeries, wartime medical experience, and revolutionary fervor, it was natural that in April 1777 he was appointed (Bartlett CF Oct 1803) “Physician & Surgeon General of the Army in the Northern or Ticonderoga Department”(Stiles 1901, vol. II, p. 161; Journals 1912, pp. 275-277). He reported in July,(Journals 1912, pp. 275-277) and ultimately served under Maj. General Horatio Gates (Stiles 1901, vol. II, p. 284; Journals 1912, pp. 275-277).

By all accounts, he did not succeed in this appointment. On August 18, Bartlett’s flying hospital had 335 patients (Gillett 1981, p. 95) The regimental surgeons complained that Bartlett refused to provide adequate supplies (Bartlett denied this accusation) (Gillett 1981, p. 95), and that he claimed to be “too old and infirm” to fulfill his duties (at the age of 47!, Journals 1912, pp. 275-277). Bartlett wanted 3 more surgeons (Gillett 1981, p. 95), and called surgeon Thomas Tillotson “my secret enemy”, because he believed Tillotson was plotting against him (Ford 1915, p. 456-7; Journals 1912, pp. 275-277). At the end of August, the hospital had 192 patients. The regimental surgeons said that General Gates had forbidden them to help Bartlett (Gillett 1981, p. 95)

Bartlett’s most notable act was to report on July 27, 1777 that the 25-year-old American woman, Jane McCrea had been killed and scalped by Indians allied with the British general Burgoyne:

"I have this moment returned from Fort Edward, where a party of hell-hounds,...with...the British troops, fell upon an advanced guard...Poor Miss Jenny McCrea and the woman with whom she lived were taken by the savages, led up the hill to where there was a body of British troops, and there the poor girl was shot to death in cold blood, scalped and left on the ground...The alarm came to camp....I immediately sent off to collect all the regular surgeons, in order to take some one or two of them along with me, but the devil a bit of one was to be found. There is neither amputating instruments, crooked needle, nor tourniquet in all the camp. I have a handful of lint and two or three bandages, and that is all. What in the name of wonder I am to do in case of an attack, God only knows. Without assistance, without instruments, without anything!"(Stone 1877, pp. 307-309)

Although scholars have debated the circumstances of her death, the news is believed to have galvanized American resolve (Holden 1913). The subsequent surrender of Burgoyne's army of over 6000 men on Oct 17, 1777 following the second battle of Saratoga marked a turning point in the war. Though Bartlett's son Charles was just 11 years old, he later wrote that he began his medical career with his father during this campaign (Bartlett CF Oct 1803). There is no way to verify this claim.

On October 22, 1777, Bartlett left Albany with General Gates' permission (Ford 1915, p. 456-7). He indicated this was "for the recovery of the use of my arm which was badly fractur'd". (Ford 1915, p. 456-7) After his recovery, he worked in 1778 at the flying hospital at White Plains. (Ford 1915, p. 456-7; Journals 1912, pp. 275-277) In the summer of 1779, Shippen, the Director General, ordered Bartlett to superintend the hospital at Fishkill, New York (Ford 1915, p. 456-7; Journals 1912, pp. 275-277; Stiles 1901, vol. II, p. 369). However, when the hospital officers refused to follow his orders, he returned home in September 1779 (Journals 1912, pp. 275-277).

After his service, he settled in Charlestown (Stiles 1901, vol. II, p. 474, 559). Yale University, under Stiles' leadership, granted Bartlett an honorary "Degree of Doctor of Physic" in 1779 (Stiles 1901, vol. II, p. 369). He moved to Nantucket in 1783, (Stiles 1901, vol. I, p. 47) where he lived a quiet life. Although Congress denied him payment of back pay in 1781, Bartlett again wrote in 1792 to William Ellery, a signer of the Declaration of the Independence, requesting additional payment for his military service (Ford 1915, p. 456-7). Ellery supported these efforts.

Records provide some indication of Bartlett's personal circumstances. In 1772, Stiles had "baptized Peter a [black] Infant Servant" of Bartlett (Stiles 1901, vol. 1, p. 239-240). Bartlett was active in the Congregational Church, and was "a sensible and firm Believer in Revelation; understanding the Doctrines of Jesus in the sense of the Calvinists." (Stiles 1901, vol. 1, p. 279) He wrote about the waters around Nantucket. He had always had a "Hygrometer" which indicated the humidity (Stiles 1901, vol. 1, p. 502). Bartlett died in 1795.

Anthony Yeldall (1770). Anthony Yeldall was another early oculist in America. He learned medicine from the lectures and practices of "eminent men" from Europe, and from travelling through England, Scotland, and Ireland for 12 years (Yeldall June 1, 1774). Upon his 1770 arrival in Philadelphia, he advertised as a surgeon who "couches cataracts in the eyes", "cuts for the stone", performs "amputation" of limbs or breast cancers, and "cures hair lips" (cleft lip) (Yeldall Sep 13, 1770). He also treated hernias ("ruptures"), dropsy, gout, and syphilis ("French disease"). (Yeldall Sep 13, 1770) He proposed rotating visits to Pennsylvania and Delaware towns near Philadelphia. (Yeldall Sep 13, 1770)

Later in 1770, he began to emphasize a business selling "Medicines." (Yeldall Dec 31, 1770) In 1771, this business was marketed with an itinerant theater production, in which Yeldall "sells medicines from a stage" and the people were entertained by "the odd tricks of his Merry-Andrew" (apparently an acrobat). (No author listed, Sep 2 1771) At Brooklyn, "several thousand" people witnessed his exhibition daily. (No author listed, Sep 2,

1771) Near the end of the summer of 1771, a boat with 110 people returning from the exhibition began to sink, producing “tears and cries of the women and children, the looks of astonishment and terror of the whole company, at the prospect of immediate death.”(No author listed, Sep 2, 1771). Fortunately, the people were rescued by other boaters. Of course, a theater production hardly seems the most ethical manner for a surgeon to advertise. As far as we know, the businesses of the travelling druggist and the surgeon were separate. We have not seen evidence that Yeldall offered surgical services from the stage.

In early 1772, he returned to Philadelphia (Yeldall Jan 2, 1772). In the fall of 1773, in Connecticut, Yeldall and his acrobat and apprentice were arrested “as strollers and idlers.”(No author listed, Nov 1, 1773). Only the acrobat was convicted.(No author listed, Nov 1, 1773). Also, while the doctor was on stage “expatiating on the virtue of his medicines”, the parish parson began to harangue Yeldall.(No author listed, Nov 1, 1773). Yeldall debated the parson, with “victory declared in favour of the Doctor.”(No author listed, Nov 1, 1773) After this episode, we have no evidence of Yeldall trying to revive his theater marketing schemes.

He returned to Philadelphia, now abandoned by Graham, and revived the druggist business there (Yeldall Mar 21, 1774). He also advertised cataract couching “giving sight to the blind in one minute’s time”, and cleaning films from the eye (Yeldall June 1, 1774). He could send to other doctors “An Eye Powder...for taking off specks, films, webs, &c. (if not mixt with the horny or outward coat) of the eye, curing watery, bloodshot, or inflamed eyes.”(Yeldall June 1, 1774). It is not clear if his own surgical practice merely involved placing the powder, or if he would also scrape off the film (Yeldall June 1, 1774).

Yeldall advertised a reward for the return of a 19-year-old “[black] man” (Yeldall Aug 15, 1774). Yeldall published the following testimonial in 1775:

“...I, Mary Irons, of Queen’s county, Maryland, was afflicted with blindness for many years...Doctor Yeldall...brought me to the sight of one eye in a minute’s time, by taking off the film...”(Yeldall May 27, 1775)

He also had performed an operation for “a Hare-Lip” (cleft-lip).(May 27, 1775) The next year, Yeldall published the testimonial of William Bell, who had been in the care of “a late famous eye Doctor’s hands” (perhaps Graham) without relief, until he saw Yeldall “who in one minute brought me to sight, and I can now see to ride.”(Yeldall Aug 3, 1776) In the Spring of 1777, Yeldall published testimonials of Peter Goslen and John Bell, two residents from west of Lancaster whom Yeldall “in one minute brought me to sight.”(Yeldall, March 8, 1777). Bell had learned of Yeldall’s services when he saw the newspaper reports that his brother had been cured.(Yeldall March 8, 1777) We do not know for sure if any of these cures were for cataract or a “film” on the eye, but Yeldall continued to advertise that “the doctor couches cataracts in the eyes, and restores sight to the blind in one minute”, and claimed to be able to prevent cataracts, through 1780 (Yeldall March 29, 1780).

Perhaps the fact that Yeldall still referred to “the United Colonies” in August 1776 (after the Declaration of Independence) was a harbinger of his loyalist sympathies and ultimate fate.(Yeldall Aug 3, 1776) Finally, in November, Yeldall realized he was now in “the United States.”(Yeldall Nov 23, 1776) Some sort of proceedings were attempted

against him in the fall of 1778, though he was “discharged by proclamation”(No author listed, Dec 12, 1778) He continued to advertise his businesses in Philadelphia through September 1780,(Yeldall Sep 16, 1780) but the next month, Yeldall and Benedict Arnold were proclaimed to be guilty of “high treason” (for completely separate offenses).(Moore Oct 3, 1780) Yeldall’s lands were seized by the state. Yeldall fled to New York, and announced a lecture in which “a figure is prepared in wax” showing the nervous system, and “...a large Eye is prepared furnished with all the Coats and Humours belonging to that most noble organ.”(Yeldall March 17, 1781) He closed with “a dissection of the natural Eye” showing “the Retina, or Expansion of the Optic Nerve over the bottom of the Eye, by which we receive the inestimable blessing—Sight.”(Yeldall March 17, 1781)

Presumably, Yeldall fled to England before the British evacuated New York in 1783. In 1790, he advertised in New York his “Load-Stone & Magnet” for “speedily removing all curable Diseases”, which he claimed was used throughout Britain (Yeldall Nov 6, 1790), and indeed had been advertised there the previous year. Although not part of the mainstream medical establishment, Yeldall was important as one of the few to advertise cataract and other eye surgery during the Revolution.

Hall Jackson (1770). Hall Jackson (1739-1797)(Estes 1979, p.3) was born in Hampton, New Hampshire, and learned medicine from his physician father, Clement Jackson, after they moved to Portsmouth. Hall Jackson spent 1762 in London, possibly at Middlesex Hospital.(Estes 1979, p.3,204-5) Jackson then returned to Portsmouth, New Hampshire to open an apothecary shop.(Estes 1979, p.3). Jackson seems to have shifted his focus towards medical practice at some point, though the apothecary shop was still advertising in 1774.(Estes 1979, p.5) He reported bilateral leg amputations on a 17 year old boy who fell into a frozen pond in 1768.(Estes 1979, p.5-6) Another leg amputation by Jackson was performed the same month.(Estes 1979, p.6) In September 1770, the newspaper reported that Jackson couched the cataracts of a 60-year-old “[black] Man” who had been “totally Blind” for many years, and was “instantaneously restored...to Sight”.(Estes 1979, p.8-9) A two month interval separated the procedure on the second eye.(Estes 1979, p. 8-9)

Jackson reported additional couchings in December of 1771.(Estes 1979, p. 9) A 39-year-old man who lost vision at age 6 months was bilaterally couched, with a month between operations. The first eye couched suffered a great deal of inflammation due to a history of trauma. After the couching of the second eye, he “was able clearly and distinctly to see the many Persons and Objects that surrounded him.”(Estes 1979, p. 9)

The hiatus between his return from London and multiple publications regarding cataract suggests that Jackson did not immediately begin couching upon his return. It is possible that some practitioners would be exposed to a particular procedure in Europe, but would not practice the procedure until others in America had led the way.

Jackson performed inoculations at the Essex Hospital. The accidental discharge of a cannon near the hospital in late 1773 severely injured one Captain Lowell, who “...having recovered, the Cure merits Notice, and does great Honour to the Physician (Dr. Hall Jackson, of Portsmouth,) who has the Care of the Hospital.” The mangled right hand was amputated below the elbow, his neck and jaw were injured, and “The Coats of the right Eye pierced and its Humours discharged, & the Bone between the Eye and the Nose broken

through; the other Eye greatly hurt..."(No author Feb 4, 1774) The patient "recovered as to need no further care of a Surgeon."(No author Feb 4, 1774)

Jackson's greatest medical contribution was the introduction of digitalis therapy to America (Estes 1979, p. 79) Jackson wrote in a 1791 letter that he would not operate if either eye had vision, "but when wholly blind, nothing can be feared. The inflammation that sometimes happens after the operation in a diseased eye, might so effect the one not diseased as to deprive it of sight."(Estes 1979, p. 7)

Stephen Little (1772). Hall Jackson's father also trained Stephen Little (1745-1800), who married Jackson's sister Sarah (Estes 1979, p. 55, 241). Little had gotten his start selling medicines in Portsmouth (Little 1766), and established his medical practice there (Estes 1979, p. 3). He briefly advertised cataract couching in New York in 1772.(Little February 10, 1772) There, he couched the cataracts of a 72-year old woman who was "instantly restored to sight" after 6 years of being "totally blind"(Little March 26, 1772). However, during the revolution, Little, a loyalist, was banished from New Hampshire.(Estes 1979, p. 55) He escaped to British protection in 1777, and to London in 1778.(Estes 1979, p. 55) In London, he worked first as a surgeon, and then as an apothecary.(Estes 1979, p. 55) His wife and children never joined him (Estes 1979, p. 55).

Frederick William Jericho (1772). Frederick William Jericho of Germany practiced in Antigua, Montserrat, and St. Kitts between 1772 and 1776. Upon his return to England, he advertised that he had performed enucleations and cataract extractions in the Caribbean. With the outbreak of the revolution, Jericho returned to London, where he advertised in 1776 that he had just returned from the Caribbean. He performed not only cataract extraction, but also treated lacrimal fistula. He also treated films on the eye and performed the earliest enucleation in the New World. Jericho was in England through 1777. He practiced in Bonn in 1780 (Reinhard-Koch). Jericho returned to America, arriving in Philadelphia in October 1783, just one month after the Treaty of Paris. He demonstrated his technique of cataract extraction for both Thomas Bond in Philadelphia (who approved), and for physician Charles Wiesenthal of Baltimore (who implied that Jericho was a "quack"). Jericho practiced between Charleston and Boston, and then returned to the Caribbean, practicing in Jamaica, and perhaps Santo Domingo. Jericho then returned to Europe (see British Isles chapter).

Benjamin Church (1773). Benjamin Church, Jr. (1734-1778) of Boston (Estes 1979, p. 47) was descended from an Englishman who immigrated to Massachusetts in 1630 (Nagy 2013, p. 1). Church was educated at Harvard College (Nagy 2013, p. 7). He apprenticed in Massachusetts (Nagy 2013, p. 8) and under a "Doctor Pyncheon", (Crawford 1902, p. 150) whom we suspect might have been Charles Pyncheon (1719-1783) of Springfield, Massachusetts (Drew 2012, p. 68). (Later sources incorrectly placed "Dr. Charles Pyncheon" in London (Nagy 2013)). In 1757, Church worked briefly as the surgeon on a sloop of war out of Charlestown.(Nagy 2013, p. 8) Later that year, he began studying medicine at the London Hospital for three years, before returning to Boston (Nagy 2013, p. 9). During a smallpox epidemic in 1764, Church inoculated John Adams, who was then a young attorney (Nagy 2013, p. 12).

Church had some interest in the eyes. In June 1773, he performed "couching upon the eyes" of one 56-year-old "Mrs. Hodges" who had been blind for several years, permitting

her to distinguish colors (Nagy 2013, p. 13). He also treated the eyes of John Adams. In December 1774, Adams noted “an Inflammation in my Eyes” which prevented him from reading or writing (Adams 1774). In June 1775, while in Philadelphia as a delegate to the Second Continental Congress, Adams wrote his wife “Dr. Church has given me a Lotion, which has helped my Eyes so much that I hope you will hear from me oftener than you have done”(Adams June 10, 1775).

Readers of Esther Forbes’ historical novel *Johnny Tremain*, set in pre-revolutionary Boston, will know not only of a “Dr. Church”, but also of a “Dr. Warren”. The real physicians of the Warren family played important political and medical roles during the revolution. Joseph Warren had trained his younger brother John.

Church and Joseph Warren served together on any number of revolutionary groups: The Long Room Club of 1762 (Nagy 2013, p. 19), a committee of correspondence in 1768 (Nagy 2013, p. 20), another 1768 committee to guide Boston’s representatives to the general court (Nagy 2013, p. 21), the 1774 and 1775 delegations to the Provincial Congress (Nagy 2013, p. 46-52), a 1774 committee to inspect Boston commissaries for surgical and other supplies (Nagy 2013, p. 48), a 1775 committee to collect taxes (Nagy 2013, p. 52), and another in 1775 to furnish medical supplies for the province (Nagy 2013, p. 54). But the paths of Church and Warren would ultimately diverge.

The American Revolution from 1776 to 1783 was associated with a reduction in the number of eye surgeons and oculists in the colonies (see earlier Figure).

The leadup to war began with the Boston Massacre of 1770, when British soldiers fired on a crowd, killing five (Nagy 2013, p. 29-30). Dr. Church performed the autopsy of Crispus Attucks, the first killed (Nagy 2013, p. 30-31). Two soldiers were found guilty of manslaughter, and were branded with an “M” for murder on the right thumb (Nagy 2013, p. 31). An annual oration to commemorate the massacre was given by Joseph Warren in 1772 and by Church in 1773 (Nagy 2013, p. 32-34).

On June 17, 1775, the British captured Bunker Hill (and neighboring Breed’s Hill) from the American militia, led by Putnam. Joseph Warren was killed when shot with a musket ball in the head. His brother John treated wounded from the battle. Some scholars doubt the traditional story that John went to the area to find his brother, and was bayoneted by a British sentry as a warning to stay away. John Warren served as a military surgeon at the Battle of Long Island and elsewhere during the war.

Church took command of the hospitals of the Continental Army in August 1775 (Estes 1979, p. 47). He oversaw hospitals which had been the homes of loyalists who had fled to British protection in Boston (Estes 1979, p. 47-8), such as the Hallowell House in Roxbury. (Nagy 2013, p. 99)

On June 19, 1775, Hall Jackson travelled to Cambridge to treat some of the 271 wounded (Estes 1979, p. 44). Jackson wrote: “Dr. Church having got notice of my being at Mistick, the best surgeon on the Continent being obliged to supply poor [Joseph] Warren’s place at the Congress forced the principle of the wounded on me, I went on with this fatigue 15 days, when a violent inflammation in my eyes forced me to return to Portsmo’.” (Estes 1979, p. 44) Jackson “amputated several limbs and extracted many balls.” (Estes 1979, p.

44) Jackson was concerned that in his absence, his hometown would see "...Doctors Cutter and Brackett & Little running away with all my business at Portsmouth." (Estes 1979, p. 55)

It turned out that the ostensible patriot Church had been spying for the British. An encrypted letter from Church to the British was intercepted. Putnam brought the woman caught with the letter to Gen. George Washington, who threatened her with hanging, after which she confessed that Church was the letter's source (Nagy 2013, p. 105). Ezra Stiles offered to decrypt the letter, though this task was ultimately performed by others (Nagy 2013, p. 103-4). Surgeon James McHenry (1753-1816) informed Church that his code had been broken (Nagy 2013, p. 112).

In October 1775, the American General John Sullivan wrote of "...Dr. Church's having been detected having a Treasonable Correspondence with the Enemy..." (Estes 1979, p. 56) Sullivan had long suspected Church of disloyalty based on his poor medical care: in Sullivan's opinion, Church's outcomes were substantially worse than those of his peers. He described "Mr. Simpson, who was shot in the foot--an amputation was necessary--Doctor Jackson, who every one must allow to be Infinitely his Superior, was there, & had every thing prepared to take off the Limb--Doctor Church happened to come in--forbid him to proceed..." (Estes 1979, p. 56) Ultimately, the patient died. Another patient had an amputation performed by Jackson, and four days later Jackson objected to the patient being moved, but Church insisted, and the patient died. (Estes 1979, p. 56)

Jackson, who had served without an official appointment or salary, himself described the betrayal by Church: "Church pretended to be my friend, was mighty sorry that I was left out of the general hospital...all the time the dirty dog was plotting against me, and was as great an enemy to me, as he was to his own Country..." (Estes 1979, p. 58)

Gen. Washington turned Church's fate over to the Provincial Congress, which voted for imprisonment. McHenry had himself been imprisoned by the British after the capture of Fort Mifflin in Philadelphia. A 1777 proposal to exchange Church for McHenry made some progress, but was ultimately nixed (Nagy 2013, p. 149-150). Eventually, in 1778, Church was simply exiled. He sailed for Martinique, but the ship was lost at sea (Nagy 2013, p. 152). John Adams lobbied for Church's replacement to be Jackson, but political considerations resulted in Dr. Morgan of Philadelphia being selected. (Estes 1979, p. 58)

James Jay (1773). In 1778, John Jay, an attorney (and, later, the first Supreme Court justice), described an ophthalmic case of James Jay, his physician brother:

"About five years ago [in 1773], a blind Frenchman, who had been maintained several years by the parish of Rye [New York], was brought to my brother. He had lost one eye fourteen, and the other five or six years. The sight of both eyes was equally opaque, and both equally useless. My brother chose to operate only on one at a time...He opened the one which had been blind fourteen years. The man recovered the sight of that eye, and requested the like operation on the other, but my brother declined it, on account of the connection, or sympathy, which he said subsisted between the two." (Van Schaack 1842, p. 108)

Francis Mercier (1774). In 1772, a French surgeon named Francis Mercier was observed near London walking two horses (Public Advertiser Dec 24, 1772; Old Bailey 1773). In addition to England, Ireland, Portugal, and his native France, he had travelled through and acquired some familiarity with the languages of Germany, Spain, and Italy (Mercier Jan 1774; Old Bailey 1773; Cryder 1774). He was the son of the postmaster of Toul, France (London Evening Oct 23, 1777).

Mercier wore “a light coloured coat and waistcoat, a pair of new buckskin breeches, a pair of boots, a new brown great coat and red collar, and he had very much the appearance of a gentleman.” An observer was suspicious, because one horse was unshod, except for a partial shoe on one foot. The Frenchman claimed that he was buying horses for the French king, and explained that he would have already returned home, except that “he had met with two hussies last night who kept him up all night” (Old Bailey 1773). The observer’s suspicions grew when Mercier could not describe the steep descent of the road from the town of Harrow (Old Bailey 1773). At the subsequent trial for thievery, the French surgeon claimed that a friend from Ireland had sold him the horse. The horse had only one functioning eye, but Mercier claimed he made the purchase “in hopes I could give him the sight of one eye; I tried but could not do it.” Mercier was sentenced to death (Old Bailey 1773). His jailers remembered that: “...he artfully contrived to cut a Kind of Channel round the lock of his Cell-door, in such a Manner that it might have been pushed out all together, and had filled it up with chewed Bread, and the Dust of the Floor, to prevent its being observed.”(Public Advertiser, December 9, 1777)

Despite these efforts, Mercier did not escape, however. Instead, he was granted clemency by King George III, and sentenced to exile in America, with seven years of servitude (Lloyd’s Apr 9 1773; General Evening Post April 20-22, 1773). In August 1773, he arrived in Maryland on a convict ship sailed by one Captain McCullough (McCulloch) (Shipping News 1773; Maryland Journal August 1773; The defenders 1778; Chamier 1778). On board, he distinguished himself by providing medical care (The defenders 1778; Chamier 1778). He befriended not only the captain, but also Daniel Chamier, a passenger and Maryland merchant (Chamier 1778). Captain McCullough appreciated the medical care provided by Mercier. The authorities released him from the required period of servitude, and the captain provided him with the essentials to start his career as a surgeon (Philodemus 1773; The defenders 1778). Soon afterwards, the captain fell sick, and, despite their friendship, many suspected that the captain had been poisoned by Mercier, a fact recalled even by his friend Chamier (The defenders 1778; Chamier 1778). After McCullough’s recovery, some of McCullough’s belongings were found in Mercier’s possession (Philodemus 1773; The defenders 1778). Mercier went into medical practice, prescribing medicines he had invented in England to cure a merchant Mr. Kaiser of kidney stones (Mercier Jan 1774).

But the captain’s support must not have been enough. Mercier was soon accused of nighttime robberies of Doctor John Boyd’s house and Patrick Kennedy’s apothecary shop in Baltimore (On Saturday Night 1773; Philodemus 1773; Mercier 1778). To enter Boyd’s house, he (and possibly unknown accomplices) “..forced their Way thro’ a Window, by first boring a Shutter with a Gimlet...introducing a small Saw” to make a hole “large enough for the Admission of a Finger, by which the Key that secured the Window, was pushed out...” Mercier stole clothing, surgeon’s instruments and pistols (On Saturday Night 1773). From Kennedy, he stole “Keyser’s Pills, ...British Oil, Turlington’s Balsam, Jesuits

Drops...”(On the night 1773) He was found guilty, and again condemned to hang (The defenders 1778; Chamier 1778). But Mercier wrote a petition asking for clemency, which Chamier passed on to Royal Governor Sir Robert Eden (The defenders 1778; Chamier 1778). The Governor exiled Mercier from the province (Chamier 1778). At first, Mercier tarried and threatened his prosecutors, but he fled the authorities (The defenders 1778).

Mercier practiced in cities up and down the East coast over the next few years. One account listed Halifax among his destinations (The defenders 1778). Upon his arrival in Philadelphia in January 1774, Mercier changed his name, and announced that “Doctor Louis” from Paris was establishing a practice (Guerra 1962, p. 687; Mercier Jan 1774). Although he claimed expertise in surgery, his emphasis seemed to be medical (Mercier Jan 1774). He advertised a “worm-repulsing powder for children.”(Mercier Jan 1774) Although ophthalmology was just a fraction of his practice, he treated “some ailments of the eye [Gebrechen in den Augen]” and had “an eye-water [Augenwasser] that will quiet some types of eyes”(Mercier Jan 1774).

Unfortunately, Mercier’s tenure in Philadelphia ended in April 1774, when he stole a horse (Cryder 1774): “The thief, who is the noted Doctor Louis a Frenchman is a tall well made man, has a smooth and full face, wears his own hair, curled on both sides of his head, and tied behind. He wears a suit of light blue cloth.” Mercier had “several very good French books of physic and surgery, likewise a fine set of surgeon’s instruments. He has the scar of a cut over his left eye, and another small scar in his upper lip, and dresses gentleman-like...He...speaks Latin very well”.(Cryder 1774)

In April 1774, “Doctor Louis” advertised in Newport that he had just come from Philadelphia, and “practices Physic and Surgery”. He cures “cataract, gout, serena [gutta serena], fistula lacimalis, purls, unguis, optalmies, redness, and any disorders in the eye...hair lips,scall on the head, scurvy in the gums...”(Mercier April 1774) “Doctor Louis” also sold “teeth powder, which makes them as white as snow...” He noted that “...since he has come into North America he has given sight to 27 persons in Philadelphia, 7 in Baltimore, and 5 in New York”(Mercier April 1774), but we have no way to confirm these numbers.

Mercier advertised as “Doctor Louis” in Newport in early May 1774 (Mercier May 9, 1774). Also in May 1774 in Providence, he advertised “Doctor Louis...will..couch the Eyes of Elizabeth Donaldson...any Person inclined to see the Operation may attend. A [black person]...that has been two Years blind, was operated upon by the Doctor last Thursday; and there is great Hopes that he will recover his Sight, as he could the next Day perceive some Objects.”(Mercier May 21, 1774c) Later that month, he published testimonials in Boston, and noted that after Donaldson’s surgery she “recovered the sight of an eye.”(Mercier May 30, 1774d) In June 1774, “Doctor Louis, Oculist and Dentist” advertised in Salem (Mercier 1774b). Unfortunately, the next month, “the well known Quack, Dr. Louis” was “committed to Gaol” for “breaking and entering” in Cambridge.(Boston Post-Boy July 11, 1774).

The Americans later claimed that through the ministrations and advocacy of Chamier (the merchant, who ultimately became the Commissary General of the British Army in North America), Mercier secured a position as a surgeon for the British army (The defenders 1778). Two days after the Battle of Bunker Hill on June 17, 1775, Mercier was

conducting wagons with wounded soldiers, when he was captured by the Americans, and held prisoner in Cambridge (The defenders 1778). Mercier asked for laudanum to help him sleep, but he used it instead to incapacitate the “centinels”, and escaped (The defenders 1778).

In August 1775, the New Haven advertisement of “Doctor L. Boduin, Occulist and Dentist from France...” was essentially identical to that of Doctor Louis. (Mercier 1775b) But in September 1775, “Dr. Boduin” was forced to “decamp” after he stole from an apothecary shop. (No author listed, Sep 1775a) The townspeople realized that “He is the same person who advertised in the last New-London paper, by the name of Louis; he is supposed to be an old offender, and will change his name wherever he goes.” (No author listed, Sep 1775a).

He turned up in New York in October 1775 as “Doctor Dubuke, oculist and dentist, just arrived from Boston”, with an essentially identical advertisement (Mercier 1775e; Mercier 1775c). He was able to continue practicing through early January 1776 (Mercier 1775d; Mercier Jan 1776). He advertised “stomachic pills” (Mercier Jan 1776). Again, he was caught stealing, because in March of 1776, the papers noted “The famous Dr. Dubuke, a Frenchman, who was branded here last January term, for stealing indigo &c. departed...in the Amboy stage boat, to visit Philadelphia...He professes himself a denist, and has travelled through the Eastern colonies under various names.” (No author listed, March 1776b) Branding, sometimes on the hand, was used to permanently mark criminals.

“Doctor L. Butte...Surgeon Dentist” advertised in mid-March, 1776, in Philadelphia (Guerra 1962, p. 600; Mercier 1776a). He “sets artificial teeth” and has “tooth powder, which cures the scurvy in the gums, and makes the teeth as white as snow...”. Butte remained in Philadelphia for several months (Guerra 1962, p. 495; Hocker 1989, p. 151), and advertised his practice there on July 4, 1776 (Mercier July 4, 1776). According to later (possibly apocryphal) American accounts, Mercier claimed that in the American flying camp, established by Gen. Washington near Philadelphia in the latter half of 1776, the well water was poisoned, leading to the death of 3000 rebels (Boudinot 1894 pp. 35-6; The defenders 1778).

The Americans later claimed that Mercier was a co-conspirator at meetings in New York for a conspiracy to kill Gen. Washington and Israel Putnam, and that Mercier attended the execution of one of the conspirators. According to this account, Mercier was recognized as a surgeon who had worked for the British, and was imprisoned (The defenders 1778). Indeed, a soldier and member of Washington’s guard, Thomas Hickey, was executed in New York on June 28, 1776. The rebels suspected that Hickey was part of a conspiracy to kill Washington and Putnam by poisoning (Drowne 1919, pp. 8-9). It cannot be determined whether Mercier could have been involved in the plot. It is always possible that the publication of advertisements could be arranged in advance. For instance, the July 4 advertisement in Philadelphia could have been arranged before June 28.

This question brings us to the curious matter of the “French Doctor Blouin”. Blouin began advertising in New York in September 1775, just before Mercier began advertising as Dubuke. Sometimes the advertisements of Blouin and “Dubuke” appeared right next to each other in the paper (Blouin December 1775). Whereas Dubuke was an oculist and

dentist, Blouin's emphasis was initially medical, and he prescribed "Keyser's pills", which of course, had been stolen by Mercier in Maryland. After Dubuke was branded for thievery in January 1776, Blouin complained that "evil minded persons" were suggesting that he (Blouin) was actually Dubuke (Blouin Feb 1776). Blouin began to address ophthalmic complaints. Blouin had a "Universal Powder" which cured "sore eyes" and "worms in children", and "a pearl in the eye and dimness of sight". (Blouin Feb 1776). Blouin also had "stomachic pills" and an eye water (Blouin Feb 1776). Blouin advertised in New York more regularly after Dubuke was branded for stealing. However, shortly after Dubuke was evicted from New York in March 1776, Blouin's New York advertisements stopped, except for a single advertisement in May, and finally on July 8. Shortly after June 28, when the Americans claimed Mercier was arrested, the advertisements of Dubuke and Mercier stopped forever. Could Blouin have been an alternate identity of Mercier? In this scenario, Mercier initially assumed the identity of a medical practitioner when the hunt for an escaped surgeon was intense. He adopted a second, more surgical persona (Dubuke), once the heat died down. After Dubuke was evicted to Philadelphia, Blouin, of course, would have stopped advertising. But Blouin's advertisement in May would suggest that Mercier could have appeared in New York intermittently that spring, and formed part of the conspiracy against Washington. Ultimately, we do not know if Blouin was Mercier. All we can say is that a French doctor who was rumored to be Mercier and who used similar medicines did advertise in New York that Spring.

The Americans later alleged that Mercier escaped from them, and helped to guide the British during their invasion of Manhattan (The defenders 1778). But by most accounts, he was still in the custody of the Continental Army for his crimes when the British captured Fort Washington (Boudinot 1894 pp. 35-6; Chamier 1778). The British held Mercier, and needed to determine his fate (Chamier 1778). Chamier, a loyalist who served as the commissary-general in North America (logistics), admitted to seeing Mercier in British custody, but denied advocating for him (Chamier 1778).

What is agreed by all accounts is that the British installed the French doctor Mercier as director of the hospitals for American prisoners (Boudinot 1894 pp. 35-6; The defenders 1778; McHenry). The British directors in New York justified this appointment by saying that they found "Louis Debuté" among the "rebels", and assumed he was one of them (McHenry 1777a). The Americans alleged that he killed numerous prisoners and stole their property (The defenders 1778). Routinely, Mercier would predict that 5 or 10 soldiers under his care would be dead by morning, and they invariably died (Boudinot 1894 pp. 35-6). That the "physick" he gave to patients was poison was proved by soldiers giving it to a dog, who died immediately (Boudinot 1894 pp. 35-6). Another American account held that, on "Jan. 4, '77....The doctor gave poison powders to prisoners, who soon died." (Onderdonk 1849, p. 218) Ethan Allen also reported the high prisoner mortality was "in consequence of a slow poison" (Dandridge 1911, p. 67). Allen estimated that "two thousand perished with hunger, cold, and sickness, occasioned by the filth of their prisons, at New York" (Dandridge 1911, p. 68). Another American, John Pintard, stated that "the prisoners...were all indiscriminately huddled together, by hundreds and thousands, large numbers of whom died by disease, and many undoubtedly poisoned by inhuman attendants for the sake of their watches, or silver buckles." (Dandridge 1911, p. 103) Rumors of poisoning were not restricted to Mercier's tenure. When Thomas Stone and his fellow prisoners were sickened after eating bread in 1778, they assumed it was poisoned, (Stone 1908, pp. 245-7) because

they recalled that "...the prison that the prisoners taken at Fort Washington had been poisoned in the same way."(Dandridge 1911, p. 135)

The prisoners were given just a single shirt in the middle of winter (The defenders 1778). When they died, "the infected cloaths" were given to subsequent prisoners, which "encreased the pestilential disorder", so that 573 prisoners died in 5 months (The defenders 1778). The prisoners were denied adequate water (McHenry 1777a). According to the Americans, Mercier exclaimed "The Rebels died like fun."(The defenders 1778) Presumably, the high mortality in the hospital was due to the overall conditions of crowding, clothing, food, etc., which were determined at a higher level than this single French doctor. However, in the American account, the British General Howe was surprised at the high prisoner mortality rate, and sought answers from Mercier (The defenders 1778).

The British also took prisoner James McHenry, a 23-year-old surgeon. McHenry railed against the treatment of prisoners by doctor "Louis Debuté" (Mercier) in a letter to Gen. Washington (McHenry 1777a). McHenry noted that Debuté was "notorious for crimes" even before the Continental army evacuation of New York (McHenry 1777a). McHenry successfully lobbied to prevent Debuté from prescribing medicines, but was initially unable to get him dismissed altogether (McHenry 1777a). Finally, a British officer reported that Debuté struck an American prisoner with his stick (cane), resulting in the man's death 15 minutes later (McHenry 1777a). Soldier Jabez Fitch of Connecticut also reported that "Doctr Debuke...often made application of his cane among the sick" (Fitch 2001). Due to the exigencies of war, the British were unable to try Louis Debuté for murder, but they were able to get him dismissed from the hospital (McHenry 1777a).

In early 1777, Mercier assumed at least one more identity in New York: John Dupuis, a surgeon and dentist "lately from France."(Mercier Feb 1777; Mercier March 1777) Then, he returned to England, and served as an interpreter to a fellow French speaker, a jeweller named Mondrey (Pelham 1886, p. 272-3). At the home where the jeweller lodged, there was a party, with drinking, singing French songs, and playing cards (Pelham 1886, p. 272-3). After the inhabitants had retired for the evening, Mercier took from his coat "a kind of tomahawk" of his own design which a cutler had constructed, approached the sleeping Mondrey, and "shattered his skull to atoms"(Morning Post Oct 18 1777). He stuffed the friend's body in a small trunk, stole some money and valuables, and departed.(Morning Post Oct 18, 1777; Pelham 1886, p. 272-3) With the money, he was able to set off for the suburb of Richmond "accompanied by a woman of the town."(Morning Post Oct 18 1777) Mercier then called upon the home every few days, asking if Mondrey had returned from the country (Pelham 1886, p. 272-3). The family became suspicious, and got a ladder to climb through the window, and found the body in the trunk (Pelham 1886, p. 272-3).

Mercier confessed to murder at a preliminary hearing in October (London Evening Post October 16, 1777; Morning Chronicle Oct 20, 1777; London Evening Post October 23, 1777). Just before his scheduled execution, he sent a messenger to request an amount of opium "in Quantity to have destroyed six persons" but the apothecary refused to make the sale (St James Chronicle, December 6-9, 1777). He requested a shave from a barber, but was unwilling to have his hands tied, so the barber was sent away (St James Chronicle,

December 6-9, 1777). Mercier was visited by a priest, and then asked to go to chapel, but this visit was denied (Gazetteer Dec 10, 1777; St James Chronicle, December 6-9, 1777).

He was tried on December 3, 1777 (Old Bailey 1777). The night before his trial, Mercier drank wine, and said that if his health had been what it was 3 months previously, he would have been able to present his own defense in court.(Old Bailey 1777) The next day, when asked how he pled, Mercier refused to answer. Testimony was offered that Mercier could hear and could speak English. A surgeon in the court examined Mercier, and reported that “his tongue is rather moist”(Old Bailey 1777). The jury was asked to determine whether Mercier “stood mute through obstinacy, or by the visitation of God”.(Old Bailey 1777) The jury settled on the former. Mercier was sentenced to death, with his body to be “dissected and anatomized”(Old Bailey 1777). Just before the execution, Mercier tried to get opium to commit suicide, but was unsuccessful (Saint James Chronicle December 9, 1777). On December 8, he was taken to the gallows. One account stated “His Behaviour...was decent and composed...The strongest Marks of sincere Repentance were visible in his Countenance; and he seemed to die with such a calm Tranquility of Body and Mind, as bespoke a modest Assurance that his Sorrow and Sufferings would atone for his Guilt...” (Public Advertiser December 9, 1777) Another account stated that he proclaimed that he admitted to robbery of the jeweller, but not murder, and had adopted the Protestant faith (Gazetteer Dec 9, 1777; Saint James Chronicle December 9, 1777). After a cover was placed over his head, he begged, and was granted permission to pray for a quarter of an hour (Gazetteer Dec 9, 1777).

The news of Mercier’s execution returned to the American colonies. An account mixing truth with speculation was the lead story on the front page of the Pennsylvania Gazette, and then travelled through the rebelling colonies (The defenders 1778; Providence Gazette June 1778; Dunlap’s Maryland Gazette; Royal Gazette July 8 1778). The British, for their part, reported that their records showed that they employed no one by the name of Francis Mercier in their hospitals (Chamier 1778). This statement proves nothing, because of course their records would have listed him as Louis Debuté. In death, Mercier (Dr. Louis Debuté) had become the symbol of royalist cruelty to the rebelling colonies.

Samuel Clossey (1775). The notice establishing the medical school at King’s College, New York, in 1767 listed Samuel Clossey as the Professor of Anatomy, and John Jones as the Professor of Surgery.(No author, Sept. 24, 1767; Shrady 1903, vol. 1, p. 13). In 1773, when James Graham delivered his lecture in New York on eye anatomy, physiology, and diseases, he invited “the Faculty.”(Graham August 26, 1773) Perhaps they attended, because Clossey’s subsequent anatomy lecture of 1775 attributed cataracts to “the chrySTALLINE humour” becoming opaque under the influence of solar radiation.(Clossey Sep 21, 1775) Understanding the anatomy of the eye was essential to performing “the operation of couching.”(Clossey Sep 21, 1775) He also discussed an operation to cure “obstruction of the lachrymal ducts”(Clossey Sep 21, 1775). The summary does not reveal whether Clossey actually performed these surgeries (Clossey Sep 21, 1775). Jones’ 1775 text, dedicated to his teacher Thomas Cadwalader, is considered the first American surgical text (Jones 1775). However, this text does not describe eye surgery (Jones 1775).

Richard Bayley (1777). Richard Bayley (1745-1801) of New York trained in London under “The Anatomist Dr. Hunter” from about 1769 until his return to New York in 1772 (Thacher 1828, vol. 1, p. 157; Shrady vol. 1, p. 26). Bayley performed an operation to cure

John Lamb of a “hydrocele” or “watery rupture” (perhaps an inguinal hernia) in 1773 (Lamb 1773). Bayley again studied in London during 1775, but in the Spring of 1776 returned as a surgeon in the English army under General William Howe (Thacher 1828, vol. 1, p. 161). “Dr. Richard Bailey” attended the wounded after the Battle of Brooklyn in August 1776 (Dandridge 1911, p. 102-3). In the fall of 1776, he served as the surgeon for the British in Newport, Rhode Island (Thacher 1828, vol. 1, p. 161). He resigned his commission and returned to New York in the Spring of 1777, and was able to see his wife just before she died (Thacher 1828, vol. 1, p. 161-2). Bayley began lecturing at the New York Hospital in 1786 (Bayley Sep 1786; Lamb 1877, vol. 2, p. 306). As a physician who remained in British-held New York throughout the war, Bailey’s wartime treatment of prisoners was questioned in the early post-war period, but he seems to have weathered the scrutiny. In 1788, the “Doctor’s mob” enraged by rumors of illicit procurement of the deceased destroyed his anatomical specimens (Thacher 1828, vol. 1, p. 163). In the spring of 1792, Bayley was appointed a Professor at Columbia College (Thacher 1828, vol. 1, p. 163).

The letters of attorney Van Schaack indicate that Bayley had begun performing cataract surgery by 1783, when Van Schaack wrote to his brothers in New York: “...still am I halting between two minds about the operation. How kind would it have been, had you told me Colonel [Moses] Philips’s fate, and that of the others Mr. Bailey has operated upon.” (Van Schaack 1842, p. 325). The same year, Van Schaack wrote: “Still, the advice given me was against an operation, until it became absolutely inevitable by the total loss of sight. It may be said that the operation might be performed in America, and it was several times hinted to me, on account of the eminence of an operator at New-York; but when, after some difficulty, I obtained a history of the cases in which he had performed, I found no great room for confidence: indeed my own opinion of him never was very high.” (Van Schaack 1842, p. 344-5). Van Schaack had still not had a cataract surgery by 1825, and perhaps never took that step.

Despite this sentiment, Bayley was generally well-regarded. Bayley had a “general preference of extraction above depression of the lens in cataract.” (Thacher 1828, p. 164). We do not know when Bayley would have begun performing extractions (as opposed to couching). The handwritten diary from 1792 of medical student Jotham Post mentions many lectures and surgeries with Bayley without clarifying the subject matter (Post 1792). In 1793, Gabriel N. Phillips, of Edenton, North Carolina announced that “Having studied under the most eminent Professors in New-York”, he performed “different operations on the eye”. (Phillips 1793). In 1793, in New York, the earliest identified advertisement in America for aphakic spectacles specified “James Rivington has...for the accommodation of persons, with couched & weak eyes...spectacles.” (Rivington Apr 26, 1793). Post’s company in 1794 advertised couching instruments (Post 1794). In 1797, the New York Hospital treated 5 patients with ophthalmia, and 2 with cataract, both of whom were cured (New York Hospital 1797, p. 4-5). In August 1801, Bailey died after contracting yellow fever while inspecting ships in the Port of New York. (Thacher 1828, vol. 1, p. 167).

The eye surgeries continued in his absence, though perhaps not with the same success rate. At the end of 1802, the hospital surgeons included Wright Post and Richard Kissam. Jotham Post was listed as the steward. That year, the hospital treated 7 patients with ophthalmia (one of whom was “disorderly”), and 4 patients with cataracts, one of whom was “cured”, and 3 of whom were merely “relieved.” (New York Hospital 1803, p. 3).

Friedrich Carl Pflug (1778). The Hessian surgeon Friedrich Carl Pflug, who performed couching, advertised in New York in 1778. As mentioned above, New York was at least briefly a refuge of the loyalist Yeldall beginning in 1781, when he lectured on the eye. Still, even in the loyalist bastion of New York, cataract surgery may have been difficult to obtain during the war. Hessian officer Wilhelm von Knyphausen, who had been instrumental in the British capture of Fort Washington, developed cataracts, and requested dismissal in 1778 due to infirmities, including unilateral loss of vision (Reed 2016). He left North America in 1782 when this request was granted.(Reed 2016)

Another who sought travel to Europe due to cataract was New York attorney Peter van Schaack (1747-1832). In June 1778, at age 31, he wrote “The disorder in my eye is now become so confirmed, as to exclude all hope of relief, but from the hand of an oculist.”(Van Schaack 1842, p. 107) He had “the continual apprehension of its communicating to the other eye” a prospect he found “more distressing to me than the terrors of immediate death.” (Van Schaack p. 107) He wanted to travel to England, but was concerned others might attribute the request to loyalist sympathies.(Van Schaack p. 107) He formally requested of Governor Clinton of New York, and was granted, “permission to go to England, on account of a cataract in one of his eyes, and for the purpose of having an operation performed upon it by an oculist.”(Van Schaack p. 120) In London, in May 1779, he consulted with “Mr. Birch, surgeon” who performed “electrical operations” on his eye.(Van Schaack 1842, p. 152-266). In the fall of 1780, he developed “symptoms of a cataract in my left eye”.(Van Schaack 1842, p. 265) The symptoms consisted of “first motes and flitting clouds passing before the eye, and afterwards a dimness, which makes the atmosphere appear hazy, print considerably diminished, insomuch as to require a magnifying glass...”(p. 265) He returned from the country to London “to counteract so alarming an attack.”(p. 265) Birch resumed electrical treatments and placed a seton on the neck.(Van Schaack p. 152-3) He also saw Baron Michael Johann Baptist de Wenzel, who offered to perform an operation, but surgeon John Hunter, dissuaded Van Schaack from surgery, and agreed with the electrical and mercury therapies.(VanSchaack 1842, p. 266)

Frederick Carle Pflag (1778). A New York advertisement from 1778 read:

“Frederick Carle Pflag, Surgeon of the Hessian Grenadier Battallion De Lengercke...is ready to serve...as an Oculist...Those who have the misfortune to be wall-eyed, he will relieve by operation, by taking out the skin of the dark eye, in the newest and best fashion, without any pain, so that they may have immediately their sight again...He may be found in the camp of said battalion near Haerlem...”(Pflag 1778)

At the time, a “wall-eye” often referred to having one light and one dark eye. As Pflag proposes operating on the darker eye, perhaps he was resecting a conjunctival nevus or melanoma.

Joseph Goss (1780). The “French Physician, Surgeon, and Botanist” Joseph Goss studied in Paris and Montpellier, and was “sworn in the society of the Doctors of Nismes in France.”(Goss Sep 29, 1791) He began practicing in the 1760s (Goss Sep 17, 1783; Goss Nov 3, 1789) and arrived in Philadelphia in about 1780 (Goss Sep 17, 1783). Perhaps he

was influenced by the success of Jericho's visit, because in 1785 (and only that year), he advertised as an eye surgeon: "...said Doctor will restore the sight to any person unhappily afflicted by blindness from a cataract on the eye, performed by a delicate operation. He has a marvelous eye-water of his own composition to cure or prevent cold in sore eyes." (Goss July 13, 1785). Goss might not have been satisfied with his outcomes, because in subsequent years he failed to mention eye surgery (Goss Nov 3, 1789).

Goss treated 60 patients during the 1793 yellow fever epidemic (Goss Sep 4, 1793). He recommended 12 hours of sweating or a hot bath, and consumption of ditiny tea, and a decoction of turnips, endive, and carrots. (Goss Sep 4, 1793) This decoction could also be used as a clyster (enema) (Goss Sep 4, 1793) Vomiting could be suppressed with "ippecacuana". (Goss Sep 4, 1793) Goss also reviewed the history of burning fires outdoors to eradicate the epidemic and offered a "perfume" which could prevent the disease. (Goss Feb 25, 1794)

Lewis Leprilete (1782). In 1782, Lewis Leprilete (1750-1804) of France settled in Providence, Rhode Island, and advertised cataract surgery, noting: "Cataract is an Operation by which the Eye is delivered of the crystalline Humour, become opacous." (Leffler Survey) Leprilete had moved to Norton, Massachusetts by 1785 (Leprilete 1/27/1785), and by 1786 he had "performed the Operation for the Cataract on a Person at Warren with Success." (Leprilete 6/1/1786) In 1791, Leprilete purchased the Hallowell House in Jamaica Plain, (Drake 1878, pp. 407-8) which was one of the wartime hospitals supervised by Church. That year, Leprilete was the first American author to publicize Franklin's invention of bifocals (Leffler Survey).

Leprilete trained numerous medical students, including Nathaniel Miller (1771-1850), from 1790 to 1792 (Obituary 1854; Mortimer 1879, p. 176-7). Leprilete probably taught Miller how to perform cataract extractions, which Miller preferred to depression (Alden 1853). In 1792, Miller went into practice in Franklin. "Within the first eight weeks, he performed successfully two capital operations;--one for cataract by extraction, upon a patient from Long Island". (Obituary 1854) He then went to Guadaloupe, (Obituary 1854), or perhaps Santo Domingo, for a few months, but "found little sympathy and even less employment." (Alden 1853) He returned to Franklin where "His operations for hernia and cataract were quite numerous...In May and June, 1798, he operated upon twenty-one eyes by extraction: all recovered sight, save one, in from three to six weeks. Artificial dilatation of the pupil was not then in use. In operating, he used either hand with equal facility, and always adhered to the practice of not operating while only one eye was diseased."

Leprilete returned to France for about 7 years in the 1790s. He had been in Guadaloupe before returning to Franklin in 1801. Leprilete practiced with Miller until his death in 1804. In his will, Leprilete called Miller "my beloved and adopted son". (Leprilete 1804) Leprilete's body was donated to John Warren for dissection. (Leffler Survey) Miller established a hospital in Franklin in 1816 (Mortimer 1879, pp. 192-3).

John Foulke (1784). John Foulke (1757-1796) studied towards a medical degree at the College of Philadelphia in 1780. (Morton 1897, p. 494-5) Foulke studied medicine in Holland, Germany, and France from 1780 to 1783, and was a Lecturer on Anatomy from 1784 to 1796 at the newly named University of the State of Pennsylvania (which eventually was named the University of Pennsylvania). He also practiced at the Pennsylvania

Hospital from 1784 to 1794.(Morton 1895, p. 495) Foulke's estate listed couching instruments (Pole Dec 28, 1796).

Charles McKnight (1785). The development of ophthalmology at King's College (later Columbia University) began under Charles McKnight (1750-1791) and Richard Bayley. McKnight began his medical training under Shippen, and then directed hospitals during the Revolution, serving first under Church, and then under Shippen (Gillett p. 43-51). Returning to New York after the war, McKnight was appointed a professor of anatomy and surgery at the university in 1785. About the year 1788, McKnight trained William Stillwell, of New Jersey,(Wickes 1879, pp. 403-5) who subsequently performed a successful eye surgery in Middletown in 1792.(No Author, Feb 16, 1792) McKnight's obituary called him: "a Physician of very extensive practice...as a surgeon and oculist, perhaps unequalled in this country—this the many uncommonly skillful and difficult operations he performed in New-York, and in this city [Baltimore], strongly attest."(No author Nov 25, 1791)

George Kiesselbach (1790). George Kiesselbach landed in Charleston in 1790, where he performed cataract operations, and from 1795 to 1798 proceeded through Norfolk, Boston, Newport, New York, and Philadelphia(Kiesselbach Nov 12, 1795; Sep 29, 1794; Jan 19, 1796). He trained with many oculists in Europe, and had studied at the Universities of Gottingen and Marburg (Kiesselbach Sep 29, 1794). We suspect that he performed extraction, rather than the standard couching of the period, because he wrote: "Should any patients present themselves with Cataracts on their Eyes, who cannot be cured but by the operation (which he performs in a much lighter and more improved manner than heretofore practiced) they shall be at liberty to bring any Doctor with them, in whose presence he will perform his operations."(Kiesselbach June 14, 1798) It is doubtful other doctors would be interested in witnessing the standard couching procedure.

Raymond Frederick (1792). The Haitian revolution, which began in 1791, resulted in French physicians leaving the island of Saint Domingue (Santo Domingo). "Mr. Raymond Frederick, Surgeon...Oculist" had studied in Paris, Montpellier, Madrid, and Rome, and then fled from Santo Domingo "on account of the sad troubles which now prevail in those parts" to New York in 1792.(Raymond Jan 20, 1792) He was one of only a handful who advertised artificial eyes.(Raymond Jan 20, 1792) Later that year, he moved to Baltimore, but strangely, he reversed the order of his name: "Mr. Frederick Raymond...lately arrived here from the Island of St. Domingo...As an Oculist...after a study of thirteen years, in the principal academies in Europe...He treats all disorders of the eyes...and puts in artificial eyes resembling the natural, and which give no pain nor lay the patients under any constraint." (Raymond July 26 1792) A set of his "Dentist, Oculist, and Physician's Instruments", containing 63 "silver mounted" pieces went missing (Raymond Oct 4, 1792), but was later returned (Raymond Oct 13, 1792).

Jean Devèze (1793). Jean Devèze (1753-1829), trained in France, and moved from Santo Domingo to Philadelphia in 1793 (Deveze 1794, p. 48-130). In 1795, his patient "...lost the use of one eye by a cataract...another pellicle growing over his second eye deprived him entirely of his sight...thanks to the care and skill of M. Deveze, he was operated in presence of several Physicians and Surgeons with all possible dispatch and success."(Deveze Sep 30, 1795)

A yellow fever epidemic broke out in Philadelphia in 1793. During the epidemic, Devèze treated patients at the hospital at Bush-Hill (Duffield Nov 13, 1793). He wrote a treatise describing his cases, in which he advocated moderate bleeding, blistering, wine, and decoction of bark.(Deveze 1794) The disease spread through “miasmata” retained in the air (Deveze 1794, p. 20-39) By 1821, Devèze had returned to Paris, where he declared that yellow fever was not contagious, and quarantines were unnecessary.(No author Feb 23, 1821)

William Baynham (1785). Surgeon William Baynham (1749-1814) of Virginia, studied at St. Thomas Hospital in London beginning in 1769, and returned to Essex County in 1785. Baynham performed “operations for...cataract”.(Biographical Sketch 1822, p. 193) and was friends with George Washington. In July 1799, Washington asked Baynham to treat a 28-year-old slave: “my Ploughman, has, for (some months) past, been afflicted with a tumour which has occasioned partial, and threatens...total blindness. He has been under the care of Doctor [James] Craik...without receiving much, if any benefit”(Washington July 30, 1799). Baynham wrote back: “I had operated on your Servant Tom’s Eyes...The tumor in the left Eye is...incurable; and a growing film in the right threatens to overspread the transparent Cornea.”(Baynham Aug 21, 1799) Given the lack of surgical success, Baynham offered a discount: “In the operations which I performed, as I was prompted rather by a wish than an expectation of relieving the poor fellow, I hope you will not take it amiss if I claim no more than a consultation fee of five dollars.”(Baynham Aug 21, 1799)

John Tyler (1786). In 1786, John Tyler of Frederick, Maryland, returned from training in London and Edinburgh, and advertised that he had seen “extracting or depressing the cataract”(Tyler Aug 16, 1786) Within a few months, he had performed eye operations on at least 3 patients (Tyler Dec 14, 1786). Subsequent biographies suggest he settled on couching as his procedure of choice.(Cordell 1903, p. 28)

Tyler was an elector who supported Thomas Jefferson in the presidential election of 1800. In October 1801, Tyler described a complex ophthalmic case in a letter to President Jefferson: “At the request of [Jefferson’s physician] Doctor [Edward] Gantt of George Town I have examined the eyes of a young man, said now to be in your service...it would be improper to attempt the operation for the removal of the Cataract at this time....there is a partial paralysis of the Optic nerves in both eyes, an entire opacity in the Chrystalline lens of the right eye, a small opacity in the lens of the other, that the nervous affection is the primary disease, and that when the Cataract is removed, vision will be very imperfect until the energy of the nerves can be fully restored.”(Tyler Oct 3, 1801)

Tyler recommended deferring “the operation until the next spring, when the Cataract will probably acquire a firmer consistence more favourable to its removal and when the ensuing warm season will enable us to pursue an alternative mercurial course for the removal of the paralytic affection...”(Tyler Oct 3, 1801) The differential diagnosis of a bilateral optic neuropathy in a young adult with bilateral, but asymmetric, cataracts is long, and includes uveitis.

This patient was probably John Christopher Süverman, whom Gantt treated medically in March 1802, when the medical bill indicated “Christopher lotion”.(Gantt March 2, 1802) An associate noted in May: “Christoph is at my house. The doctor began a major treatment that he hopes will destroy the thing that is affecting his better eye, the one

without the cataract. In two weeks the doctor will know if the unfortunate man can recover his sight. If he cannot see in two weeks with his better eye, the operation would be useless, since after removing the cataract, the same cause that affects the better eye would still exist in the other one, which does not see at all. If the treatment does not succeed, this poor unfortunate will have to go to the hospital or poor house.”

The conservative treatment was unsuccessful. In 1810, Jefferson wrote that Süverman has “become blind, and gets his living by keeping a few groceries which he buys & sells from hand to mouth.”(Jefferson August 21, 1810)

Doctor Stoddard (1787). In 1787 a “Doctor Stoddard” resected a congenital “incysted tumour called...an atheroma, from the matter contained in the cystis, or bag, resembling and being of the consistence of a soft pudding.” (Stoddard July 13, 1787) The mass was “cut out of his [the patient’s] forehead, right eye-brow and lid” and was “covering the orb of the eye and part of the temporal artery, both of which he [Stoddard] avoided cutting, though the adhesion was considerable.”(Stoddard July 13, 1787) The description is consistent with a dermoid cyst. The 41-year-old patient, John Brassee, of Livingston, New York, had refrained “from having it extirpated from a belief that it would be attended with sudden death.”(Stoddard July 13, 1787)

Mons. De L Volatile (1790). A handful of practitioners advertised prosthetic eyes in the American colonies. The first advertisement after the Revolution came in 1790, in Charleston, from “Mons. De La Volatile...His artificial eyes are of a very beautiful assortment, brilliant black, languishing blue...with or without eyebrows.” (De La Volatile 1790) De La Volatile also offered “bosoms of the most lovely constructions, with other inviting prominencies after nature, by which additions elderly ladies may pass for belles of five and twenty.”(1790)

Richard Cortlandt Skinner (1791). Richard Cortlandt Skinner (d. 1834) trained in dentistry in London under Bartholomew Ruspini. After arriving in Philadelphia in 1788, Skinner asked Benjamin Franklin for a \$20 loan to help get established.(Skinner 1788) In 1791, he advertised in New York “Skinner, Surgeon-Dentist...Mr. Skinner substitutes artificial eyes in such a curious manner as to hide the deformity occasioned by the loss of an eye.”(Skinner 1791) He charged 3 guineas to fit an artificial eye (Skinner 1801, p. 25) In 1806, he wrote “Dr. Skinner...sets artificial Eyes...he will gratify curiosity by setting one in an orbit of his own Cranium or head” and claimed to have “the recommendations of several of the professors of the Columbia College”(Skinner 1806) Skinner’s work “A Treatise on the Human Teeth” is said to be the earliest American work on dentistry (Skinner 1801).

Peter Degrauers (1791). Peter Degrauers was a colorful surgeon who advertised in Jamaica in 1791 (Degrauers 1791). His ophthalmology text noted: “The disorders of the cornea are very common. The albugo and spots which grow on this membrane are produced by inflammations very ill attended to.”(Degrauers 1788, p. 87). Degrauers noted that smallpox was a frequent cause of corneal scarring. He continued: “The Pterygium is a rising, fleshy membrane, which...extends slowly from the conjunctiva to the cornea...”(Degrauers 1788, p. 87). He added “The pterygium, as well as an infinity of tumors, which grown under the eye-lids, may be extracted without the least danger to the organ...”(Degrauers 1788, p. 88)

In 1791, Peter Degrauers advertised in Kingston, Jamaica “Doctor Degrauers is a safe operator for the Cataract and Fistula lacrymalis”.(Degrauers 1791) His 1788 treatise clarified that the term “fistula lacrymalis” was used in this period for any dacryocystitis (even those that had not yet developed a true fistula to the skin surface), while those with a true fistula were described as “a complete fistula lacrymalis.”(Degrauers 1788, p. 20) For simple cases of dacryocystitis, Degrauers recommended nasolacrimal massage (“press on the bag”) and irrigation (“make several luke-warm injections through one of the lachrymal points”).(Degrauers 1788, p. 128) Second, Degrauers mentioned the “silver probe” of Anel, which was introduced through the “superior lacrymal point” (upper canaliculus) into the nose.(Degrauers 1788, p. 129) When learning to find the probe entering the nose he advised the operator “to begin on dead bodies.”(Degrauers 1788, p. 130) He also described passing the probe into the nose, through the “inferior orifice of the ductus ad nasum” (the valve of Hasner), and into the lacrimal sac.(Degrauers 1788, p. 133) When probing and injections fail, the next step is “opening the bag by an incision.”(Degrauers 1788, p. 135)

Joseph Brevitt (1798). Joseph Brevitt (1769-1839) trained in London, and then practiced on Guadeloupe (in the British Army) and Antigua from 1796 to 1797.(Brevitt Jan 6 1798; Brevitt 1948). Upon his arrival in Baltimore in 1798, he advertised that he “extracts the cataract and treats every disease of the eyes.”(Brevitt Jan 6, 1798) In 1799, Brevitt published a very brief account of the history of anatomy (Brevitt 1799). Brevitt’s treatise of 1810 noted that “Ophthalmia, or sore eyes” in young children could be treated with “leeches applied to the eyelids or temples...setons or issues applied to the back of the neck...”(Brevitt 1810, p. 232) Newborns might be born with the eyelids “grown together”, but the connection can be “put upon the stretch and carefully cut through”.(Brevitt 1810, p. 228)

John Warren at Harvard (1783). In the fall of 1782, the Harvard Medical School was established in Cambridge. John Warren was appointed the Chair of Anatomy and Surgery. One can see a dramatic progression in ophthalmology at Harvard over the course of Warren’s career. Initially, Warren’s ophthalmic understanding was quite limited. In his anatomy lecture notes of 1783 to 1784, Warren relayed a story originally told by Robert Boyle about a man confined in a dark dungeon in Madrid for several weeks who eventually was able to perceive the mice eating crumbs on the floor, but when freed could not initially tolerate daylight (Warren 1783-5, p. 210-211; Adams 1806, vol. 2, p. 202).

Warren also lectured that “the first defect in vision is in seeing subjects inverted”(Warren 1783-5, p. 210) Indeed, because the retinal image is inverted, some scholars assumed that “all Objects, to a Person who is first brought from Blindness to Sight, do appear inverted.”(Oldys 1753, p. 22) This idea was (incorrectly) believed to have received empirical support in 1751 in England, when an 8-year-old boy with congenital cataracts was couched and “having a Pin held up before him...being bid to touch the Head, he laid his Finger upon the Point of it.”(Oldys 1753, p. 22)

Warren lectured about the eye anatomy of birds (Warren 1783-5, p. 232) He also recounted his sensations during his first moments of life. These passages were intended to be interpreted literally, rather than a guess about what a baby might experience. Warren wrote: “I well remember that joyful...moment when I first became acquainted with my own existence...I opened my eyes, what an addition to my surprise! The light of the day, the azure vault of heaven...”(Warren 1783-5, p. 215) These sights “filled me with incomprehensible delight”.(Warren 1783-5, p. 215) Then, “I turned my eyes to the sun. Its

splendor dazzled and overpowered me.”(Warren 1783-5. p. 215) Six pages recount his first experience of each sense: vision, hearing, touch, smell, and taste.(p. 215-220) He concluded that touch was more reliable than vision.

It appears Warren accepted some of the more fanciful European speculation about vision, and was willing to indulge in philosophical musings of his own. However, these early notes provide no indication that he had begun performing cataract or other eye surgery (Warren 1783-5).

Warren’s interest in eye surgery might have been stimulated by the arrival of both Jericho and Leprilete to Massachusetts in 1785. In 1788, George H. Hall, one of two students in the first class of “the University of Cambridge” to receive “the degree of Bachelor of Physick”, read his “Dissertation on the Cataract” which discussed its history, and “its cause and cure”.(No author listed, July 24, 1788) John Adams attended the graduation ceremonies held in “Harvard Hall.”(No author listed, July 24, 1788)

The teaching of couching at Harvard in the late 1780s is also suggested by the story of surgeon Nathan Smith, who trained with Warren at Harvard from 1789 to 1790 (Hayward 1998). After Smith went into practice, he requested couching instruments of Warren in February 1791, though nothing came of the request at the time (Hayward 1998). In 1794, Warren lectured on lacrimal fistula, and on both cataract couching and extraction (Appleton). Warren preferred couching, with which he had better results, perhaps because he did not perform a capsulorhexis along with extraction (Appleton).

The method of couching was described in the lecture notes of John Warren’s student at Harvard University in 1794:

“Couching...by passing the instruments into the sclerotica about 1/6 part of an inch behind the cornea, and then looking for the point of the needle till it is observed immediately above the lens. The needle is then to be turned on its flat side downwards, and the lens to be depressed till it does not rise. The instrument then is to be withdrawn in the same manner as it was introduced—The wound then to be dressed superficially.(Appleton 1794, p. 108)

Placing the couching needle ¼ inch (4.2 mm) posterior to the limbus results in pars plana entry (Leffler Clin Ophth 2016). As the needle is observed just anterior to the lens, rather than the iris, the needle passed posterior to the iris. Thus, the general approach to couching had not changed since described by Celsus in the first century (Leffler Clin Ophth 2016).

In 1794, Warren’s student recorded the method of cataract extraction:

“As by passing a sharp edged instrument into the cornea about 1/12 of an inch from its edge and out at the opposite side. The edge of the instrument is then passed obliquely downwards & outwards cutting thro’ the cornea which is left suspended like a flap—the lens is the pressed out thro’ the pupil.”(Appleton 1794, p. 108)

As Warren had no technique to evacuate the lens other than simple pressure, it is not surprising that he would have had poor outcomes with extraction, and would have favored couching. Warren's student recorded:

"The former of these [i.e. couching, as opposed to extraction] is to be preferred on various accounts—The violence done to the pupil in forcing out the lens often injures it irreparably—and the cicatrix made by the latter is much greater and more injurious than that occasioned by the former. In both cases the dressings should be wet with aqua vegeto mineralis [lead subacetate solution] & the light excluded."(Appleton 1794, p. 108)

With respect to lacrimal fistula, the student of (the elder) John Warren recorded in 1794:

"The operation for the fistula lachrymalis is performed upon the os unguis, this being a bone no thicker than a wafer—Often the instrument has passed a bougie [a flexible surgical probe] inserted for 6 or 8 weeks which prevents the bone from closing & filling up the aperture."(Appleton 1794, p. 28)

Some time before 1806, Warren "had operated for cataract with perfect success" on the eyes of the son of a Mr. Gilpin, of Newport (Warren 1874, p. 424). This gentleman might be the diplomat who arrived in 1803 (No author listed June 11, 1803).

Bildad Beech (1792). Perhaps Shippen, Foulke, or Wistar taught Bildad Beech, who studied first with his brother Elnathan Beech, and then studied medicine and surgery at the hospital in Philadelphia (Beech August 5, 1795). In his 3 years of practice in Whitestown, New York, Bildad Beech performed "Trepaning, Amputation, the Operation for the Hernia, Couching,..."(Beech August 5, 1795) But "finding the Western Country unfavorable to his health" he settled in Cheshire, Connecticut in 1795.(Beech August 5, 1795)

Caspar Wistar (1793). Caspar Wistar (1761-1818) was a physician and botanist born in Philadelphia (Kelly 1914, p. 81; Gilchrist 1940, pp. 4-5). He began his medical training locally, under John Morgan, William Shippen, Jr. and Benjamin Rush (Kelly 1914, p. 81). Wistar received a medical degree at Edinburgh University, after studying under William Cullen (Kelly 1914, p. 81). Wistar's thesis of 1786 was dedicated to Benjamin Franklin (Wistar 1786, title page). Upon his return to Philadelphia, he practiced with John Jones (1729-1791). Wistar was the Professor of Chemistry and Physiology in the College of Philadelphia after 1789, a physician at the Pennsylvania Hospital from 1793 to 1810, and Professor of Anatomy in the Medical School of the University of Pennsylvania after 1808 (Kelly 1914, pp. 82-83).

In 1793, Wistar couched the cataract of the 71-year-old botanist Humphry Marshall (Kelly 1914, p. 84). The surgery was a "partial success, for the old man was at least enabled to distinguish his favorite plants as he walked in his garden."(Kelly 1914, p. 84) In 1815, Wistar gave his set of eye instruments to his trainee Charles Wilkins Short when the latter returned to his native Kentucky (Kelly 1914, p. 129).

Wistar published a text on anatomy, and described the anatomy of the ethmoid bone (Kelly 1914, p. 81). The flowering vine *Wisteria* is generally believed to be named after Wistar, to acknowledge his botanical work (Kelly 1914, p. 81-87).

Mason Fitch Cogswell, 1793. Mason Fitch Cogswell (1761-1830) studied medicine with his brother, James Cogswell, in Stamford and New York (Williams 1845, p. 102), before practicing on his own in Hartford in 1789 (Williams 1845, p. 102). Cogswell showed an early interest in eye surgery. In 1793, a woman from Brooklyn wrote to request “the removal of a film or an opaque tumor from the eyes.”(Cogswell 1924, p. 64) At some point, Cogswell began to perform cataract surgery by extraction (Williams 1845, p. 103).

In December 1801, Cogswell wrote to Elias Graves, a resident of Guilford, about a cataract surgery: “I am truly sorry for the failure of the operation.”(Cogswell 1801) With the postoperative care of Doctor [Eli] Todd, Cogswell wrote “you had every advantage for the recovery of your eye.”(Cogswell 1801). Before the surgery it had appeared to be “a simple cataract” but in retrospect there had probably been “disorders in the humours of the eye”(Cogswell 1801). Cogswell proposed a reduced payment of \$20, but wrote that if Graves still thought the price too high, he should send what he could afford.(Cogswell 1801)

As of March 3, 1803, Cogswell was still operating on cataracts by the method of couching, according to his daybook (see Figure).

Figure. Mason Fitch Cogswell performed cataract surgery by couching (rather than extraction) on March 3, 1803. Photo by Chris Leffler at the Connecticut Historical Society.

March 3rd 1803

Saturday	Dr. Sandwith	2
	Dr. Sandwith's cataract couching	
	Dr. Sandwith	20
	Dr. Sandwith's cataract couching	

On May 4, 1803, a newspaper advertisement from a surgeon who performed extraction, Charles F. Bartlett, wrote that cataract extraction was not performed in Hartford, or listed on Cogswell's fee schedule, which Bartlett had obtained from Cogswell (Bartlett CF 1803). This statement suggests Cogswell did not perform extractions before 1803 (Leffler Survey). But, perhaps in response to the pressure from Bartlett, we do see in Cogswell's day book that he performed a cataract extraction on May 3, 1803, the day before Bartlett's advertisement appeared in print (see Figure).

Figure. Mason Fitch Cogswell performed cataract extraction on May 3, 1803, according to his daybook. Cogswell may have felt pressure to advance from couching to extraction when a competing surgeon Charles F. Bartlett came to Hartford. Photo by Chris Leffler at the Connecticut Historical Society.

May 3rd 1803

Sunday	Dr. Sandwith	20
	Dr. Sandwith's cataract extraction	

Cogswell's description of an 1807 epidemic of "spotted fever", known today as cerebrospinal meningitis, (Cogswell 1924, p. 64) listed ophthalmic implications of the disease. (Cogswell 1810). Patients had eye inflammation, and the pupils could be either dilated or constricted. Cogswell thought bleeding was used excessively (Cogswell 1810). Cogswell's daughter Alice was infected during this epidemic, and lost her hearing (Cogswell 1924, p. 64). Cogswell noted the lack of training for the deaf in this country, and petitioned the legislature for funding which permitted Thomas Hopkins Gallaudet to travel to Europe to study the educational methods there. After Gallaudet returned, the

Connecticut Asylum for the Education of the Deaf and Dumb was founded in 1817 (Williams 1845, p. 106; No author March 25, 1817).

The announcement of the opening of the Hartford Dispensary and Surgical Infirmary in 1830 with Cogswell as a consulting surgeon noted “Diseases of the eye and ear will receive particular attention.”(No author listed, Hartford 1830) Richard Kissam trained with Cogswell 1827. Kissam wrote a thesis on iritis at the College of Physicians and Surgeons in New York in 1830, and performed the world’s first corneal transplant with a human recipient in 1838.

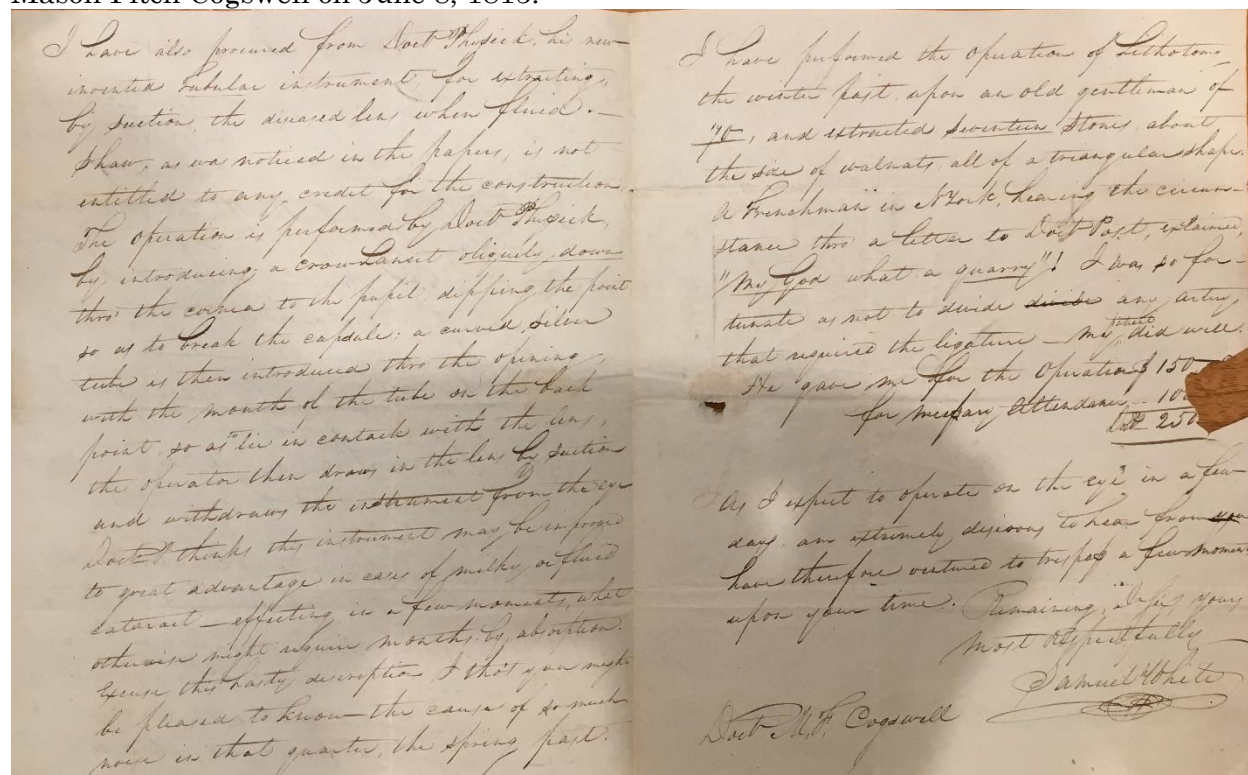
Philip Syng Physick (1794). In Philadelphia, the era of cataract extraction began in earnest with the practice of Philip Syng Physick (1768-1837; Gilchrist 1940, p. 7). A native of Philadelphia, Physick first studied medicine under Adam Kuhn at the University of Pennsylvania (Albert 1965, p. 5-6). In 1789, Physick travelled to London to study under John Hunter, and was a house surgeon at St. George’s Hospital (Albert 1965, p. 6) He then trained at Edinburgh, and in 1792 received the doctor of medicine degree (Albert 1965, p. 6) Physick then returned to Philadelphia. He was appointed to the Pennsylvania Hospital in 1794, the Medical Department of the University of Pennsylvania in 1800, and became the Professor of Surgery there in 1805 (Albert 1965, p. 8). His surgical journal begins in 1795, and the first recorded case is of a woman whose vision he restored with cataract surgery (Albert 1965, p. 8).

Philip Syng Physick, at the Pennsylvania Hospital from 1794 onward, performed extraction by placing the knife “1/12 of an inch within the sclerotica...and bring it out upon the opposite [side] of the cornea.”(Albert 1965, p. 12) Then he incised the anterior capsule: “...the needle is introduced and the capsule torn as much as possible” before expulsion of the lens (Albert 1965, p. 12) Physick’s teachings on eye surgery were recorded in *Elements of Surgery*, written by his nephew, John Syng Dorsey, published in 1813.(Albert 1965, p. 13)

Over the course of Physick’s tenure, many graduates of the University of Pennsylvania would export eye surgery techniques to the new republic. Among the earliest was Joseph Glover who graduated in 1800, and settled in Charleston in 1801. His biographer wrote that Glover performed eye surgery from the beginning of his career and “monopolized” eye surgeries in that area, attracting business even from the neighboring states (Williams 1845, p. 179-180). His biographer wrote: “For cataracts, he operated either by extracting, or by depressing the lens.” Glover operated even on “‘very elderly’ individuals, i.e. 65, 70, and 83 years.” (Williams 1845, p. 179-180)

In 1815, Physick aspirated the cataracts of attorney Francis B. Shaw, which permitted Shaw to return to work for at least 14 years. Shaw’s cataract had previously been operated on by John Syng Dorsey by the method of division, but residual lens material had prevented him from seeing. In addition to notices of the surgery sent by the patient to the newspaper, the surgery on Shaw was mentioned in a letter of surgeon Samuel White to Mason Fitch Cogswell (Leffler “Aspiration” 2017; see Figure).

Figure. Letter regarding aspiration of cataracts in 1815 by Philip Syng Physick of Philadelphia. The letter was sent by surgeon Samuel White of Hudson, New York, to Mason Fitch Cogswell on June 8, 1815.



Nathan Smith (1798) and Lyman Spalding. After an apprenticeship with Josiah Goodhue in Putney, Vermont, Nathan Smith (1762-1829) began practicing medicine in Cornish, New Hampshire in 1787. After his training at Harvard Medical School in 1789 and 1790, where he earned a Bachelor of Medicine degree, Smith returned to Cornish (Hayward 1998). He attempted twice in 1791 to obtain couching instruments from John Warren of Harvard (Hayward 1998). Smith spent the first half of 1797 observing medical lectures and surgeries in Edinburgh, Glasgow, and London (Hayward 1998). Later in 1797, he began lecturing students in Hanover (Hayward 1998). His efforts lead to the founding of the Dartmouth Medical School and his appointment as a professor in 1798 (Hayward 1998). Perhaps, his journey abroad or his role as a medical educator reinvigorated his interest in eye surgery. In June 1798, he paid 12½¢ to his neighbor, a silversmith named Jedediah Baldwin, for “setting a couching needle” (Hayward 1998). His accounts for 1800 included charges for “extracting a tumor near an eye” (\$5) and “extracting an eye” (\$22), but no cataract surgeries (Hayward 1998).

Smith had an apprentice named Lyman Spalding (1775-1821) who subsequently began training at Harvard Medical School in 1794 (Hurd 1919), and covered Smith’s practice during his 1797 voyage (Spalding 1916 frontispiece). Spalding set up his own practice in Portsmouth, New Hampshire later in 1797 (Hurd 1919).

From antiquity, surgical texts had recommended ambidexterity, so that the operator could approach the sitting patient's eye temporally while facing the patient. The right hand operated on the left eye and vice-versa. An alternate approach for the right-handed surgeon operating on the right eye was to stand behind the patient. Smith tried that approach. In September 1807, he wrote his colleague Spalding that only once had he (Smith) attempted to extract the cataract of a right eye: "Respecting extracting the cataract on the right eye, I have performed once only on that eye. I stood behind the patient and introduced the knife in the usual manner excepting the edge was turned in an opposite direction, so as to cut the flap upward, which is preferable to cutting it downward, as the cicatrix is apt to produce some obstruction to vision in looking down on the ground..."(Spalding p. 137). By December of that year, Spalding himself had begun cataract surgeries, although he performed couching, as a fellow doctor wrote: "I sincerely congratulate you on your success in couching" (Spalding 1916, p. 139)

Smith operated on the cataract of a Mr. Darby of Boston in October of 1809 (Smith 1914, p. 47). In February of 1810, Smith asked Spalding, who was studying in Philadelphia, to "make diligent inquiry of Dr. [Philip Syng] Physic[k] respecting his mode of operating on the eyes & what kind of instrument he uses."(Hayward 1998) One of Smith's students recorded in November of 1810 that "Doct. Smith has performed the operation of Couching five times within these Six weeks. They report to him from all parts of the Country, one person from the vicinity of Boston Came here Completely blind and had both Eyes operated upon about three weeks since, She can now see to read tolerably well by the assistance of Glasses."(Hayward 1998) Smith subsequently couched many cataracts (Hayward 1998). Therefore, it seems that although he tried extraction, he settled on couching as his procedure of choice.

Smith later began to teach surgery at several newly formed medical schools: at Yale in 1813, and, for a brief period, at the Maine Medical School in Brunswick in 1821 (Hayward 1998). Notes from his lectures at Yale for 1824 and 1825 addressed removal of eyes with cancer, ptosis operations, eyelid tumors, "Coagulated Substances on the Cornea", and "Dropsy of the Eye", defined as vision loss from "a collection of fluid within its coats".(Hayward 1998) In 1826, a patient from consulted him regarding "a prolapsus of the iris."(Hayward 1998)

Charles F. Bartlett (1801). Charles Frederick Bartlett (1766-1806), the son of John and Lucretia Bartlett, was born in Westerly, Rhode Island (Arnold 1891, p. 79). As noted above, Charles claimed to have "first commenced his medical career" when he accompanied his father during the revolution at the age of 11 "and was present at the capture of General Burgoine [John Burgoyne] and his army" after the second Battle of Saratoga (Bartlett Oct 1803). It is conceivable that an 11-year-old could accompany and assist a surgeon father in war, though no evidence confirms the statement. Charles Bartlett received additional medical training at the Hotel Dieu in Paris in the early 1780s (Bartlett Oct 1803). Bartlett landed in Bermuda in 1785, and established a surgical practice there (Bartlett July 23, 1785). Bartlett had performed "Lithotomy, or cutting for the Stone in the Bladder" first while at the Hotel Dieu, and several times subsequently in the West Indies.(Bartlett Dec 1801) He married a local woman in 1786 (Bartlett August 5, 1786).

In 1787, his physician half-brother John Bartlett, Junior, (born 1755; Hurd 1882, p. 509) settled on Turks-Island, and wrote that he “professes the Cure of the Cancer, in a late discovered method.”(Bartlett June 9, 1787) This cure must have been a family secret, because in 1790, when Charles moved to Charleston, South Carolina, he advertised “Dr. Bartlett also professes the secret art of curing Cancers...” and announced the establishment of a hospital for “sick [black patients]”(Bartlett May 17, 1790) In June 1790, “Dr. C. Fredck Bartlett” asked the Medical Society of South Carolina to admit him, although it appears this was request was rejected (Medical Society 1810, p. 13). In June 1792, Bartlett performed the autopsy on the infant of “the celebrated miniature painter” Peter (Pierre) Henri of France. Bartlett diagnosed “a perforation of the gall bladder.”(Webber 1920) The fee schedule signed in Charleston in July 1792 by Charles F. Bartlett, Nathan Brownson (whose subsequent estate sale listed couching instruments), and other physicians included no eye operations.(Bartlett 1792, p. 1) Prices depended on whether the patient was a “white person” or “a slave”, the weather, whether it was dark, and “for [the physician] rising out of bed.”(Bartlett 1792, p. 1) Not until 1804 were “The Operation for the Cataract” (\$10) and for “Fistula Lachrymalis” (\$10) added to the fee schedule in Charleston (Medical Society 1810, p. 223-4). Later that year, he was declared insolvent, and notice of the sale of his estate was posted by the sheriff. The estate included “[black people]”, a horse, furniture, books, and medicines (Osborn 1792)

Bartlett returned to Bermuda in January 1793, and announced the resumption of his medical practice (Bartlett Jan 19, 1793). Always ambitious, he announced in March of 1793 that he would open a “large and commodious hospital” for smallpox inoculation (Bartlett March 2, 1793).

Next, Bartlett decided to change careers. He no longer needed his medicines, and advertised their sale in June of 1793 (Bartlett June 1, 1793). A new career working with his wife’s family as a privateer was possible, because after the January 1793 assassination of Louis XVI of France, the British and the French were again at war.

In the waters near Port-au-Prince, the brigantine *States General* of Charleston, captained by Peter Dardelie, was captured by the privateer schooner *Kate* captained by Joseph Brownslow of the firm Jennings and Brownslow, and was taken to St. George, Bermuda, arriving in July 1793. After landing, “a certain doctor Charles Frederick Bartlett...came on board the brigantine...in the character of agent.”(Dardelie 1793) Bartlett asked Dardelie the time. When Dardelie took out his gold watch, Bartlett took it, saying “if the brigantine...was a good prize, the watch would be so likewise.”(Dardelie 1793) The Bermudans confiscated the wine (Dardelie 1793) In the fall, Bartlett had wine for sale (Bartlett September 21, 1793).

In October, he announced that he would command “The beautiful Sloop *Bermudiana*, a 14 Gun Privateer” (Bartlett October 5, 1793). He set out in early November (No author listed, Nov 2, 1793). Although Bartlett claimed to be a lawful privateer, the American newspapers labelled Bartlett’s actions “Piracy” (Piracy 1794). On December 3, 1793, the *Bermudiana* under Bartlett plundered the ship *Eliza*, which was stranded on Philips’ Reef, off East Caicos.(Nassau 1794) The Bermudians confined the ship’s officers, and several of the *Eliza*’s crew ultimately died on Turk’s Island.(Nassau 1794) The *Eliza*’s crew made a vow “for bringing the perpetrators of such barbarity to punishment”(Nassau 1794)

The *Bermudiana* also captured the ships *Swallow* and *Sally* (No author listed, December 21, 1793 and Jan 25, 1794). The schooner *Mercy* set out from Charleston and was ultimately seized by Bartlett and his privateers in Jean-Rabel (Haiti) in early 1794. Upon reviewing the ship's documents, Bartlett declared that he knew the owners to be "damned rascals" from his time in Charleston (Piracy 1794). Bartlett took the ship first to Turk's Island (Piracy 1794) and then to Bermuda (No author listed Feb 8, 1794). The South Carolinians reported "This pirate is the same Doctor Bartlett, who defrauded so many people in this city of their property...The owners of the privateer are Jennings, Tucker & Co. of Bermuda, and possess large property in Charleston." (Piracy 1794)

The news of his switch to privateering travelled quickly to America via the Tucker family, natives of Bermuda. St. George Tucker of Williamsburg described Bartlett's career switch in a letter on March 1, 1794: "Dr. Bartlett, the spermaceti doctor...has turned privateersman, and commands a vessel out of Bermuda." (Bouldin 1878, p. 222-223) Spermaceti was not listed among Bartlett's medical supplies, although he did sell vitriol aether, ginseng, opium, and digitalis (Bartlett Dec 1801). Spermaceti candles were sold by a Bermuda store with which he was affiliated.

Bartlett's wife gave birth to a son in March 1794, with the baptism in May (Baptismal 1794). Shortly thereafter, his ship left for Tortola under another captain. Bartlett established himself as a physician on Tortola. There, he treated a "gentleman" named Charles Wills Walrond who died of yellow fever in January 1795 (Bartlett 1801 pp. 36-8; Oliver 1914, p. 168; Burke 1847 p 1506). In July 1796, he treated soldiers of the 88th British regiment who carried an epidemic of yellow fever from Grenada in the ship *Betsy transport*. (Bartlett 1801, p. 37; Chisolm 1822, p. 191) One soldier seemed to be doing better, but upon hearing that his uncle had died, "immediately renounced ideas of life, and expired in a few hours." (Bartlett 1801, p. 37)

But by 1798 on Tortola, Bartlett had reverted to his career as a privateer. In September 1798, even those who noted "Bartlett's Character was notorious as a rapacious privateer owner" still referred to him as "Dr. Bartlett". (Naval Documents 1935, p. 544-5) Privateering was considered socially acceptable. In October 1798, Bartlett met an American officer at a tavern, and procured a horse for him and brought him to the President of the Island. The officer noted "Doctor Bartlett appears to be a Man of Confidence with the president of the Island, and to all appearance a Man [of] Respectability." (Naval Documents 1935, p. 545-6) In 1798, a Danish brig was seized by about 25 sailors on the *Little Arch*, a privateering schooner owned by Bartlett, and taken to Tortola. (Nissen 1838, p. 29-34) The owner of the Danish cargo asked Bartlett for permission to board the brig, but was denied. The owner went to Bartlett's house at seven o'clock the next evening. Bartlett was having "a large party", and told the owner to leave. The owner recounted:

"I took off my coat and waistcoat, and walked into the hall where the company was assembled...the lady of the house cried out, 'my dear Dr. Bartlett, that man is crazy or drunk!' 'No, I beg your pardon, Madam!...but your husband wishes to rob me of my property, so I will give him all my clothes too.' The Doctor rose up in a great passion, drew out his sword, and...said he would split my head." (Nissen 1838, pp. 29-30).

When Bartlett was restrained by one of the gentlemen present, Bartlett threw down his sword, asked his servant for paper and ink, wrote permission for the owner to retrieve only his personal effects, and then invited the owner to sit and have a glass of wine. The owner refused, and recalled that the next day, the townspeople “all pointed at me and said, that is the gentleman who refused yesterday to drink a glass of wine with Doctor Bartlett.”(Nissen 1838, pp. 31-2)

In June 1800, Bartlett returned to Newport, explaining that his health had suffered from his time practicing in the West Indies, and that friends of his father should see him for care.(Bartlett June 1800) In July, the town suffered an outbreak of yellow fever after the arrival of the United States frigate *General Greene*. Bartlett wrote that the town council asked him to examine the sailors, and afflicted townspeople,(Bartlett 1801, pp. 1-24) though the ship surgeon, not wanting to appear as if the town doubted his authority, responded that the town council only asked Bartlett to attend to 3 particular patients.(Naval Documents 1938, p. 263) The town council and the health officer confirmed the ship surgeon’s account. Bartlett wrote that because the fever was infectious, it was necessary to move the ship away and sink it in sea water for two weeks, but the town council did not heed his advice (Bartlett 1801, p. 1-24). Yellow fever produced loss of eyesight, and pain above and in the eyes, as they become “inflamed, watery, protruded” (Bartlett 1801, pp. 9-10).

The move to the mainland did not help his health. Bartlett became severely ill with the “pestilential fever” and experienced bleeding from the mouth and nose, headache, loss of memory, vertigo, and “a disposition to coma” (Bartlett 1801, pp. 30-1).

In Newport, he first “performed many operations in the Eyes—such as removing the Cataract by depression and extraction...also Films, Gutta Serena, Ophthalmia’s, &c.”(Bartlett Dec 1801). His fee schedule of August 1801 listed the operations “for extracting or couching the cataract 50 dollars”, and noted these had not been previously performed in the area (Bartlett Aug 1801). In December of 1801, Bartlett submitted for copyright “A Treatise on Rules of Health” which prevention and cure of diseases for all ages. The cures included “the effect of electric influence” (Rhode Island 1920 p. 95)

Bartlett was present in the New York yellow fever epidemic of 1801, which took the life of Bayley, and judged it to be similar to his previous experiences.(Bartlett Dec 1801) Bartlett returned to Newport at the end of 1801, and took umbrage at the claims of a fellow surgeon named Horace Senter. Bartlett was “astonished at the presumption of a Mr. Senter, in...saying ‘that Operations in the Eye by extracting the Cataract; and cutting for the Stone in the Bladder, had not been performed by any Person residing in this State.’”(Bartlett Dec 1801)

In February 1802, he was admitted to the First Congregational Church of Stonington (Wheeler 1875, p. 261), but later that month he announced that his time visiting family in Connecticut was over, and he was returning to practice in Newport (Bartlett Feb 1802).

He began practicing in Hartford, and in May 1803, responded in print to his critics, by explaining that although 4 patients had died after seeing him, they were under the care

of other doctors at the time, and this was out of 1067 total patients that he had seen around Hartford.(Bartlett May 1803) He indicated that he had received a fee schedule from surgeon Mason Fitch Cogswell (1761-1830) of that city. Bartlett noted: "Lithotomy...and extracting the cataract from the eyes, Dr. Bartlett is informed are not practiced in this neighborhood."(Bartlett May 1803)

In August 1803, Bartlett left his family in Hartford and travelled to New York to assist with a yellow fever outbreak (Bartlett Aug 1803; Bartlett Oct 1803). He was doing poorly financially, and left shop furniture for sale in Hartford. He hoped to earn enough in New York to satisfy his debts (Bartlett Aug 1803). In New York, he noted that he "has recently recovered from the effects of the Pestilential fever."(Bartlett Oct 1803) Even though he was declared an insolvent debtor in early 1804 (No author listed Feb 1804), he remained in New York and highlighted his talents as "...an experienced operator in the eyes, by removing blindness occasioned by cataracts, films, &c"(Bartlett March 1804) He requested patients come to his house for treatment, as his "present ill state of health" made his travel difficult.(Bartlett March 1804) Also that Spring, he advertised that he "will take six Pupils,...operations...couching and extracting cataracts."(Bartlett April 1804) He also published the idea that steam from a bellows forced into the lungs could reanimate the dead after drowning, strangulation, or hanging (Bartlett April 23, 1804). He had intended to publish the idea in a book, but believed that medical necessity required immediate publication in the newspaper (Bartlett April 23, 1804).

Cataract surgery, lithotomy, and treatments "to cure cancers" continued to be his specialties when he moved to New Bedford, Massachusetts in later in 1804 (Bartlett Oct 1804). He also announced that he was about to publish a 700-page medical book (Bartlett Oct 1804).

In truth, he probably never fully recovered from the yellow fever. His health was failing and his finances were poor. He had burned his bridges in the Northeast, in Charleston, and in the West Indies. He travelled to what was then the Southern-most port in the United States—Darien, Georgia. When he finally succumbed to his illness at the age of 40 in July 1806, the obituary stated "He has left a truly distressed family—a widow and three orphan children".(No author listed Aug 1806)

Horace Senter, 1801.

Horace Gates Senter (1780-1804) was the son of Isaac (1753-1799) and Elizabeth Senter of Newport (Senter 1915, p. ii). The elder Senter was a surgeon most remembered for serving during the failed assault of the Continental army on Quebec in 1775. When Benedict Arnold's leg was pierced with a musket ball, Senter recorded "I easily discovered and extracted it."(Senter 1915, p. 136) The family had moved to Newport by 1787.(No author Sep 8, 1787)

Horace Senter was "possessed of a mind uncommonly active and promising, from his genius, to follow in the bright train which the example of his venerated father marked out for him."(No author Feb 23, 1804) At his graduation from Rhode Island college in 1796, he debated the merits of establishing a uniform national educational system (No author, Sep 17, 1796). He received a "Master of Arts" there in 1799 (No author Sep 17, 1799).

Senter was close with John Collins Warren when the two trained at Guy's Hospital in London. Warren wrote "No one comes to see me but Senter."(Warren 1860, vol. 1, p. 32) Colleagues remembered Senter as "a most zealous anatomist".(Jackson JBS 1870, p. 51) Senter helped Warren dissect a hypertrophied heart, which was preserved in the museum of the Medical College.(Warren 1860, vol. 1, p. 92). On his own part, John Collins Warren remembered that the preparation of anatomic specimens was "a primary occupation and a pleasure."(Warren 1860, vol. 1, p. 412) He enjoyed "nicely injecting a delicate piece of anatomy...and of enclosing it in an elegant glass vessel of perfectly transparent liquid."(Warren 1860, vol. 1, p. 412) He performed "blood-vessel injections" of the specimens.(Warren 1860, vol. 1, p. 412) Typically, pigments suspended in resin or glue were injected (Shippen, Corner 1951, p. 68). But Warren remembered "Senter was ahead of me in this art, and had made a collection, which, though small, contained many beautiful pieces."(Warren 1860, vol. 1, p. 413) Senter performed "minute injection of the vessels of the eye" when preparing a collection of 10 specimens of the choroid, retina, ciliary processes, vortex veins, and iris.(Jackson 1870, p. 51)

Senter returned to Newport in November 1800(No author Nov 15, 1800) and soon announced his intention to succeed his father in the practice of medicine.(Senter Jan 6, 1801) In November 1801, he wrote that his services were available "As the Operations for the Stone in the Bladder, and the Extraction of the Cataract from the Eye, have never been performed by Surgeons residing in this state..."(Senter Nov 21, 1801) As Charles F. Bartlett had already advertised these types of surgeries in August of that year,(Bartlett Aug 25, 1801) Bartlett registered a protest with the paper. Of course, Lepreite had advertised cataract extraction in Rhode Island 20 years before both of them.

In 1802, Senter's recently widowed mother died suddenly after experiencing palpitations (No author Sep 7, 1802) John Rutledge of South Carolina spent the summer of 1802 in Rhode Island. Senter was alleged to have had an affair with Rutledge's wife, though it was not immediately discovered.(No author Feb 11, 1804)

Around New Year's Day of 1804, Rutledge learned that Senter was in Charleston.(No author Feb 11, 1804). By that point, Rutledge knew about the alleged affair, having discovered "amorous letters"(No author Feb 11, 1804b). Senter was conversing with Mrs. Rutledge in her home when her husband burst in and fired at Senter, shooting off one of his fingers.(No author Feb 10, 1804) Senter ran away, and hid in the woods all night while Rutledge's "[blacks]" pursued him.(No author Feb 10, 1804) Senter made his way to Charleston, where Rutledge challenged him to a duel,(No author Feb 11, 1804) which took place in Savannah a few days later.(No author Feb 11, 1804; No author Feb 17, 1804) Senter fired first, merely grazing Rutledge.(No author Feb 11, 1804) Rutledge's shot passed through the bone just below the knee, and the duel was terminated.(No author Feb 11, 1804) Senter's leg was amputated, but he died two days later, on January 19, 1804.(No author, Jan 25, 1804; No author Feb 14, 1804c)

With both his parents having recently preceded him in death, his hometown paper lamented "Dr. Senter was the only remaining hope of his once esteemed family."(No author Feb 23, 1804) A fellow student of Senter's wrote "Poor Senter! I am not surprised at his end. I think he was a little too impetuous in his manner."(Warren 1860, vol. 1, p. 139) Warren acquired the anatomic specimens prepared by Senter (Warren 1860, vol. 1, p. 413; Jackson 1870, p. 51) and donated them to the permanent collection of Harvard

University. Whereas Warren would go on to become one of the greats of American medicine, Senter's potential was never realized due to his personal foibles.

Peter Foissin (1801). In May 1801, Peter Foissin, a student of "Physic" in Charleston wrote of a 25-year-old "[black] man" who received a traumatic cataract in the right eye after "a blow with a whip". The left eye "became affected with amaurosis, to the utter extinction of sight." Foissin attributed the contralateral vision loss "Either from sympathy, effusion, or the excessive action of the rays of light". Foissin wrote that the patient could sense objects near his body without touching them, and had such a sharpening of his mental faculties that without sight he could now navigate the city and accomplish all his tasks well.

Samuel Brown (1801). In April 1801, Samuel Brown, a doctor in Lexington, Kentucky, treated a two-year-old girl who behaved strangely, fell to the floor as if paralyzed, developed fever, delirium and "scarlet efflorescence over the whole body." (1802) She alternated between weeping, screaming, laughter, and incoherence. The pupils were dilated, with "a remarkable squinting of the right eye, which, however, was not constant." This observation probably reflects an intermittent esotropia, as partial cycloplegia induced excessive efforts at accommodation, and therefore convergence. The doctor induced vomiting, which produced seeds of "the stramonium". Over the next few days, he prescribed "rhubarb and pot-ash". The child recovered. Brown proposed that poisoning with stramonium was probably common. He also asked "Would not the topical application of the stramonium, by its power of dilating the pupil, facilitate the extraction of the cataract?" Dilation with belladonna was just being introduced in Europe. It appears that this frontier American doctor thought of the idea independently.

John Collins Warren (1802). John Collins Warren, the son of the Harvard professor, returned from training in Europe in 1802, preferred extraction to couching or division (dividing the lens into pieces which remained in the eye) (Warren 1860, vol. 2, p. 120-121). The elder Warren was undoubtedly influenced by his son, and in 1806 recommended cataract extraction, and assisted his son in the operation, for angle closure glaucoma. Thus, over the career of John Warren, Harvard Medical School progressed from teaching almost no practical ophthalmology to being at the forefront of the field.

John Syng Dorsey (1804). John Syng Dorsey (1783-1818), Physick's nephew, studied medicine with his uncle from 1798 to 1802, when he graduated from the University of Pennsylvania (Toledo-Pereyra 2003). Dorsey then studied medicine at St. George's hospital in London, and in Paris, and returned to Philadelphia in 1804 (Toledo-Pereyra 2003). His surgical text of 1813 combines his observations with those of Physick and European authors (Dorsey 1813, vol. 1, pp. 292-306). Dorsey reviewed surgery for ectropium, entropium, pterygium, lacrimal fistula, artificial pupil (iridectomy), anterior chamber paracentesis, couching, cataract extraction, congenital cataract, and extirpation (enucleation) of the eye (Dorsey 1813, vol. 1, pp. 292-306).

Elisha North (1814). Elisha North (1771-1843) may have been exposed to eye surgery at the University of Pennsylvania, which he attended in 1793 and 1794 (Steiner 1932). North's illustrations show that he performed couching (Steiner 1932). However, we have no evidence that North performed couching until his 1814 advertisement in New London of the "operation for a cataract" (Steiner 1932). North is credited with opening the

first eye infirmary in the United States in New London in 1817 (Steiner 1932). He also presented an eye speculum of his own invention in 1821 (Steiner 1932).

Overview of European Ophthalmology in North America.

Whereas the native American healers we uncovered were predominantly women, the European healers were almost all men. In fact, we did not discover any female surgeons at all.

Whereas the Latin American medical community in Europe and Latin America was tightly controlled (by the royally appointed protomedico in the latter), the oculists in the English colonies appeared to be relatively unregulated. Any man who did an apprenticeship or attended lectures could call himself "Doctor". (We use the word "man" because the few women practitioners we uncovered used the title "Mrs.").

It would be easy to imagine that the early oculists were divided into unethical itinerant quacks who did not further American medical development, and ethical surgeons who planted roots in their local medical communities and often had university training and affiliation. However, such a simple distinction misses many nuances. Itinerants have occasionally been accused of moving along before the bandages came off postoperatively. In fact, the itinerants typically stayed at least a few months, if not years, in a given city. Often their movements can be explained by war, local competition, or the need to find unoperated patients. Some of the itinerants had more university training than community surgeons whose training consisted only of an apprenticeship.

As for medical and surgical skill, the university-trained physicians applied treatments such as copious bleeding, and mercury. The superiority of this approach over placebo medicines is not obvious. We might imagine that surgical skill would be related to surgical volume. Sometimes the mainstream physicians merely observed a few cases in their training, and then performed a handful throughout their careers. In fact, they may have learned by watching an itinerant. An itinerant who focused on eye surgery over a long period, such as Stork or Jericho, probably would have better results than a mainstream credentialed nonspecialist who only did a few cases.

Some of the itinerants offered therapies such as electricity, magnetism, or reanimation of the dead. For Graham and Yeldall, the electrical and/or magnetic treatments actually came after their American tours. Moreover, even mainstream scientists and physicians were experimenting with these treatments.

Certainly many of the itinerants committed crimes and other misdeeds of varying severity. Mercier was convicted of murder. Charles Bartlett was a privateer and was accused of piracy. Graham lied about performing a cataract extraction. But these lapses (as serious as some of them were) do not automatically render all of their medical care meaningless. Graham probably had a good understanding of eye physiology and pathology for the time, and lectured on topics such as glaucoma not generally discussed in the colonies. Bartlett might have exposed community surgeons in the Northeast to the technique of cataract extraction. Mercier's descriptions of the results of his couching were more realistic and circumspect than those of the well-respected Jackson.

Moreover, the mainstream surgeons were not without their own lapses. They were accused of improper appropriation of anatomic specimens (Bayley), disloyalty to country (Church), and misappropriation of public resources (Shippen).

In England, surgeons, with the title "Mr.", and physicians, with the title "Dr.", were (and still are) separate (Loudon 2000). The lack of regulation in the British colonies meant that the distinction did not apply. One practiced any aspect of medicine or surgery one felt comfortable with, and called oneself "Doctor". In some ways this produced a meritocracy, where anyone could advertise, perform medical and surgical treatments, and acquire a good (or bad) reputation.

The Revolution delayed the development of ophthalmology in America. Loyalist surgeons were expelled. Those who favored independence became preoccupied with both wartime medical care and political activities. Practitioners from abroad refrained from migrating to the war-torn colonies.

In the half-century following Daviel's introduction of planned cataract extraction, couching was still the predominant technique in America. Even many who had exposure to extraction, such as Tyler, Warren, and Smith, preferred couching. Given the lack of anesthesia, an understanding of antisepsis, preoperative pupillary dilation, or corneoscleral suturing, it is easy to see how cataract extraction would be difficult to accomplish successfully.

Certain advances in the American colonies rivalled the innovations in Europe. In 1801, Samuel Brown, a doctor in the frontier territory of Kentucky, observed poisoning by *Datura stramonium*, and suggested that this agent be applied topically to dilate the pupil before cataract extraction. After the return of his son from European training, John Warren at Harvard recommended treating angle closure glaucoma by lens extraction. Other eye procedures described or advertised in America before the 19th century included enucleation, resection of conjunctival lesions or periocular tumors, treatment of lacrimal fistula, and fitting of prosthetic eyes.

References.

- Adair J.** The history of the American Indians; particularly those nations adjoining to the Mississippi, East and West Florida, Georgia, South and North Carolina, and Virginia. London. Dilly. 1775. P. 173. **Adams.** The famous Doctor Adams, Oculist, Auricular, &c. Pennsylvania Packet. Phila. Mar 7, 1774. III(124):2. **Adams G,** Jones W, Patterson R. Lectures on natural and experimental philosophy, considered in its present state of improvement. Vol. 2. Phila: Whitehall. 1806. p. 202-3. **Adams J.** John Adams to Abigail Smith, 17 April 1764. Founders.archives.gov **Adams J.** From John Adams to Edward Biddle?, 12 December 1774. Founders.archives.gov **Adams J.** "John Adams to Abigail Adams, 10 June 1775." founders.archive.gov **Adlersterren GW.** "Dr. G. W. Adlersterren, from Lancaster". Columbian Mirror and Alexandria Gazette (Virginia). Jan 10, 1799. VI(897):4. **Albert DM,** Scheie HG. A History of Ophthalmology at the University of Pennsylvania. Springfield, Illinois. Thomas. 1965. pp. 1-17. **Albert DM,** O'Connell M. Ophthalmology in the United States at the time of the revolution. Surv Ophthalmol 1977;22(1):48-56. **Albert DM,** Diaz-Rohena R. A historical review of sympathetic ophthalmia and its epidemiology. Surv Ophthalmol. 1989;34(1):1-14. **Alden E.** The early history of the medical profession in the county of Norfolk, Mass. S.K. Whipple, Boston (1853), p. 33. **Alexander J.** To Benjamin Franklin from James Alexander, 29 January 1753. Founders.archives.gov **Appleton M.** Syllabus of a course of Anatomical Lectures delivered at Harvard University, 1794, by John Warren M.D. in Notebook of Moses Appleton, 1794-1837. colonialnorthamerican.library.harvard.edu/items/show/12121 **Arnold JN.** Vital record of Rhode Island: 1636-1850: first series: births, marriages and deaths.: a family register for the people. Vol. 5. Washington County. Providence. Narragansett Historical Publishing Co. 1891: 79. **Baker F.** Gratitude to Doctor Tyler. Maryland Gazette (Annapolis). Dec 14, 1786. XLII(2083):4. **Baker F.** From Wesley to Asbury. Studies in early American Methodism. Duke Univ Press. Durham, NC.

1776. **Barham** H. Hortus Americanus: Containing an account of the trees, shrubs, and other vegetable productions, of South-America and the West-India Islands, and particularly of the island of Jamaica. Kingston, Jamaica: Aikman [1794]. Pp. 171-2. **Bartlett** CF. Charles F. Bartlett...lately from the Continent...Chirurgion. The Bermuda Gazette and Weekly Advertiser. No. 80. July 23, 1785. p. 1. bnl.contentdm.oclc.org/cdm/ **Bartlett** CF. Tuesday was married Dr. Bartlett to Miss Polly Jennings, both of Port Royal. The Bermuda Gazette and Weekly Advertiser. Aug 5, 1786. No. 134. p. 4. bnl.contentdm.oclc.org/cdm/ **Bartlett** CF. Doctor Bartlett, Takes this method to inform...that he has opened a Commodious Hospital, for the reception of sick negroes. City Gazette (Charleston). May 17, 1790. VIII(1479):1. **Bartlett** CF, Brownson N. To the inhabitants of South-Carolina. As there is no established rule for regulating medical charges, we the subscribers, practitioners of physic...have thought proper to state to the public our rates of charging. 1792. Charleston, 1792: 1. **Bartlett** CF. Doctor C. F. Bartlett...return to these Islands for the purpose of resuming his Professional Business of Physick, Surgery and Midwifery. Bermuda Gazette and Weekly Advertiser. Jan 19, 1793. No. 470. p. 1. bnl.contentdm.oclc.org/cdm/ **Bartlett** CF. Doctor Bartlett...his intention of opening a very large and commodious hospital...for the reception of any that may wish to be inoculated by him with the infection of the Small Pox. Mar 2, 1793. No. 476. P. 1. bnl.contentdm.oclc.org/cdm/ **Bartlett** CF. Dr. Bartlett...has on hand, for sale, a very large and complete assortment of the best Drugs and Medicines. Bermuda Gazette and Weekly Advertiser. June 1, 1793. No. 489. p. 1. bnl.contentdm.oclc.org/cdm/ **Bartlett** CF. "For private sale...Dr. Bartlett...A quantity of Claret and Tenneriffe Wines." Sep 21, 1793. Bermuda Gazette and Weekly Advertiser. No. 505. bnl.contentdm.oclc.org/cdm/ **Bartlett** CF. The beautiful Sloop Bermudiana, a 14 Gun Privateer, Charles F. Bartlett, Commander, will sail on a Cruize against the French. Bermuda Gazette and Weekly Advertiser. Oct 5, 1793. No. 507. p. 1. bnl.contentdm.oclc.org/cdm/ **Bartlett** CF. Doct. Charles F. Bartlett begs leave to acquaint the Friends of his late Father (Dr. John Bartlett) formerly of this Town—and the Public in general—of his having returned to his native Country. Newport Mercury. June 17, 1800. 1992: 3. **Bartlett** CF. Doctor Bartlett is now under the disagreeable necessity of repeating his former declarations regarding the conditions he is disposed to practice in the line of his profession. Newport Mercury. Aug 25, 1801. 2054:1. **Bartlett** CF. Doctor Bartlett has returned from New York. Rhode-Island Republican (Newport). Dec 5, 1801. II(10)4. **Bartlett** CF. An account of the rise and progress of the malignant fever, commonly called the yellow fever! Which lately appeared in Newport. Newport, Oliver Farnsworth, 1801. pp. 1-38. **Bartlett** CF. Doctor Bartlett has returned from New York. Rhode-Island Republican (Newport). Dec 5, 1801. II(10)4. **Bartlett** CF. Doctor Bartlett, Presents his Compliments to his friends. Rhode-Island Republican (Newport). Feb 27, 1802. II(74):3. **Bartlett** CF. Doctor Bartlett, The vile calumniation that have been industriously propagated regarding his professional practice, as well as to his professional fees. Connecticut Courant (Hartford). May 4, 1803. XXXIX: (1997): 2. **Bartlett** CF. Doctor Bartlett informs those who wish his medical or chirurgical assistance. The Evening Post. New York. Oct 12, 1803: 3. **Bartlett** CF. Dr. Bartlett having omitted in his former advertizements, as practioner of Physic, Surgery, and Man-Midwifery. Evening Post (New York). Mar 3, 1804. 714: 3. **Bartlett** CF. Dr. Charles F. Bartlett...will take six Pupils,...operations...couching and extracting cataracts. The Evening Post. New York. Apr 6, 1804. 743: 3. **Bartlett** CF. Remarks on the means that have with great success been employed in some cases of Suspended Animation. Apr 23, 1804. Charleston Courier. 2(95): 2. **Bartlett** CF. Doctor Bartlett having determined on residing in the township of New Bedford. Columbian Courier (New Bedford). Oct 26, 1804. VI(48): 3. **Bartlett** J. Charlestown, Rhode Island Colony, Jan. 1768. Boston Evening-Post. Feb. 29, 1768. 1692. 1. **Bartlett** J. Doctor John Bartlett, of Charlestown in this Colony, has lately cut, for the Stone in the Bladder. Newport Mercury. 7/31/1769. 569. p. 3. **Bartlett** J. From the Newport Mercury. Newport, January 18, 1771. Boston News-Letter. May 16, 1771. 3527. Suppl. 1. **Bartlett** J. Doctor John Bartlett, at Turks-Island, professes the Cure of the Cancer. Bahama Gazette. Nassau. June 9, 1787. P. 3. **Bartlett** T. Thomas Bartlett...Surgeon's Instruments...Couching Instruments. Massachusetts Mercury (Boston, Massachusetts). May 23, 1797. IX(41):4. **Bartram** J. To Benjamin Franklin from John Bartram, 29 April 1771. Founders.archives.gov **Bates** AC. Rolls of Connecticut men in the French and Indian War, 1755-1762. Vol. 2. Hartford. Connecticut Historical Society. 1905. p. 52. **Bayley** R. Post W. Convinced of the advantage which students of medicine may derive from attending a course of anatomical and chirurgical lectures. Dailey Advertiser. New York. Sept 28, 1786. II(496):3. **Baylies** G. The subscriber purposes to continue the Practice of Physic and Surgery. Newport Herald. Newport. August 27, 1791. V(234):3. **Baylies** G. Dr. Gustavus Baylies. Herald of the United States. Warren, Rhode Island. April 22, 1797. VI(263):1051. **Baylies** G. Dr. Gustavus Baylies, of Bristol. Rhode-Island Republican (Newport, Rhode Island). February 5, 1803. III(123): 1. **Baynham** W. "To George Washington from William Baynham, 21 August 1799," Founders.archives.gov **Beech** B. Doct. Bildad Beech, Physician & Surgeon...has removed to Cheshire, in Connecticut. Connecticut Journal. New Haven. August 5, 1795. 1449: 3. **Benes** P. Dr. Anthony Yeldall: A Philadelphia Pharmacist Navigates the American Northeast. Dublin Seminar Proceedings. 2009. **Benson** J. John Benson, Lapidary and Optician...spectacles for cataract eyes. New-York Gazette (New York, New York). July 23, 1798. 3020: 4. **Beverley** R. The History and Present State of Virginia, in Four Parts. London: R. Parker. 1705., p. 24. docsouth.unc.edu/southlit/beverley/beverley.html **Black** W. An historical sketch of medicine and surgery, from their origin to the present time; and of the principal authors, discoveries, improvements, imperfections and errors. By W. Black, M.D. London: Johnson [1782]. P. 154. **Blaine** MR. "Pawnee Passage, 1870-1875." Civilization Of The American Indian Series. Norman: University of Oklahoma Press. 1990. ehrafworldcultures.yale.edu/ **Blake** JB. The anatomical lectures of William Shippen, 1766. Trans Stud Coll Physicians Phila. 1974 Jul;42(1):61-6. **Blouin**. I applied to the French Doctor Blouin, who advised me to make use of his Anti venereal pills so well known by the name of Keyser's pills. Constitutional Gazette (New York). Dec 20, 1775. 41: 4. **Blouin**. Doctor Blouin from Old France. New-York Journal. Feb. 15, 1776. 1728:3. **Boudinot** E. Journal or historical recollections of American events during the revolutionary war. Phila., F. Bourquin, 1894. pp. 35-36. **Boduin** L. Louis. "Doctor Louis...practices Physic and Surgery..." Newport Mercury (Newport, Rhode Island). April 18, 1774. 815:3. **Boduin** L.

"Doctor L. Boduin. Occulist and Dentist from France." Connecticut Journal (New Haven, Connecticut) August 30, 1775. 411: 2. **Boduin L.** "Monsi. Dr. Boduin...has been detected, in stealing from an apothecary's shop..." Connecticut Journal (New Haven) Sep 6, 1775. 412:3. **Boltzius JM**, Jones GF. The secret diary of Pastor Johann Martin Boltzius. [Savannah]: Georgia Salzburger Society, 1975, pp. 1-2. **Boltzius JM**, Kleckley RC, Gröschl J. The letters of Johann Martin Boltzius, Lutheran pastor in Ebenezer, Georgia: German pietism in colonial America, 1733-1765. Lewiston, N.Y.: Edwin Mellen Press, 2009. Vol. 1. pp. 178-309. **Boltzius JM**, Kleckley RC, Gröschl J. The letters of Johann Martin Boltzius, Lutheran pastor in Ebenezer, Georgia: German pietism in colonial America, 1733-1765. Lewiston, N.Y.: Edwin Mellen Press, 2009. Vol. 2, pp. 551-733. **Bouldin P.** Home reminiscences of John Randolph: of Roanoke. Richmond, Va.: Clemmitt & Jones, , 1878. pp. 222-223. **Brevitt J.** Dr. Brevitt...extracts the cataract and treats every disease of the eyes. Federal Gazette. Balto. Jan 6, 1798. VII(1297):3. **Brevitt J.** The history of anatomy, from Hippocrates, who lived four hundred years before Christ. ...By J. Brevitt, M.D. & F.S.G. Balto: Sower, 1799. **Brevitt J.** The female medical repository : To which is added, a treatise on the primary diseases of infants. Balto: Hunter. 1810. pp. 228-32. **Brevitt J**, Lambert JR. Travels of an English Immigrant to Maryland in 1796-1797. Maryland Historical Magazine. Baltimore. June 1948. XLIII(2): 81-95. **Bricknell J.** The natural history of North-Carolina. With an account of the trade, manners, and customs, of the Christian and Indian inhabitants. Strange beasts, birds, fishes, snakes, insects, trees, and plants, &c. London, Corbett [1743]. Pp. 185-6. **Browne J.** Adenochoiradelogia, or, An anatomick-chirurgical treatise of glandules & strumaes or, Kings-evil-swellings... London: Newcomb, 1684. pp. 194-195. **Brown S.** An Account of a Child nearly poisoned by the Seeds of the Thorn-Apple: Communicated in a Letter from Dr. Samuel Brown, of Lexington (Kentucky), to Dr. Mitchill. The Medical Repository of Original Essays and Intelligence, Relative to Physic, Surgery, Chemistry, and Natural History (1800-1824). New York. Swords. (Jan 1, 1802). 5(1):36-39. **Burke J**, Burke JB. Genealogical and heraldic Dictionary of the Landed Gentry of Great Britain & Ireland. Vol. II. London: Henry Colburn. 1847. p. 1506. **Calcott I.** For the benefit of the Sick and Afflicted, is just arrived from London, Isaac Calcott. Providence Gazette (Providence, Rhode Island). June 17, 1769. VI(284): 3. **Calcott I.** Dr. Calcott from London. New-Hampshire Gazette (Portsmouth, New Hampshire). July 30, 1773. XVII(876):4. **Chamier D.** In the foregoing dull narrative, great freedom is taken with my name. Royal Gazette. July 8, 1778. New York. 185: 2. **Chisolm.** "Dr. Chisolm of Grenada." Medical commentaries. ... Collected and published by Andrew Duncan. London: Dilly 1780]-1794. Pp. 365-373. **Chisolm C.** A Manual of the Climate and Diseases of Tropical Countries. London. Burgess and Hill. 1822, p. 191. **Clark J.** A treatise on the yellow fever, as it appeared in the island of Dominica, in the years 1793-4-5-6: to which are added, Observations on the bilious remittent fever, on intermittents, dysentery, and some other west India diseases. London: Murray [1797]. P. 8. **Cogswell MF.** Remarks On The Spotted Fever by Dr. Cogswell of Hartford. Greenfield Gazette (Greenfield, Mass). Apr. 10, 1810. p. 1-2. **Cogswell MF**, Cogswell A, Root GC. Father and daughter : a collection of Cogswell family letters and diaries, 1772-1830. West Hartford: American School for the Deaf. 1924, p. 64. **Cogswell MF.** Letter to Elias Graves of Guilford, Connecticut. December 1, 1801. From the collection of Mason F. Cogswell Letters, 1786-1828. William L. Clements Library. 2013. quod.lib.umich.edu/c/clementsms **Cohen IB.** Benjamin Franklin's Science. Cambridge: Harvard. 1990. **Colden C.** To Benjamin Franklin from Cadwallader Colden, 20 May 1752. Founders.archives.gov **Clossey S.** Extract from Dr. Clossy's [Clossey's] Introductory Lecture. New-York Journal. Sep 21, 1775. 1707: 1. **Colli Bo.** "Spinal cord cysticercosis: neurosurgical aspects." Neurosurgical focus 12.6 (2002): 1-7. **Connecticut.** Church Records Index. Connecticut State Library, Hartford, Connecticut. Volume 083. North Stonington. Connecticut, Church Record Abstracts, 1630-1920. Ancestry.com **Cordell EF.** The medical annals of Maryland, 1799-1899; prepared for the centennial of the Medical and chirurgical faculty. Balto: Williams. 1903: 28. **Crawford MC.** The romance of old New England rooftrees. Boston: The Page Company. 1902. p. 150. **Cryder S.** "Ten Pounds Reward...The thief who is the noted Doctor Louis a Frenchman..." Pennsylvania Packet (Phil.) Apr. 18, 1774. III(130):Suppl. 1. **Dandridge D.** American Prisoners of the Revolution. Charlottesville, Virginia. Michie. 1911. **Dardelie P.** To All to Whom These Presents Shall Come. Columbian Herald (Charleston). Oct 8, 1793. 1192: 3. **DeBrahm WG.** DeBrahm's Report of the General Survey in the Southern District of North America. Columbia, SC, Univ of South Carolina Press; 1971, p. 184-185. **de Burgoa F.** Palestra Historial de Virtudes y Exemplaes Apostólicos. México: 1670. Facsimile Edition. Publicaciones del Archivo General de la Nacion. XXIV. Edited by Rafael Lopez. Talleres Graficos de la Nacion. Mexico. 1934. pp. 354-355. **Degravers P.** A complete physico-medical and chirurgical treatise on the human eye. The second edition. Edinburgh: printed for the author. 1788. **Degravers P.** Doctor Degravers is a safe operator for the Cataract and Fistula lacrymalis. The Daily Advertiser, Mar 25, 1791. Kingston, Jamaica. p. 3. **DeLacoudre.** Dr. DeLacoudre in Norfolk. Virginia Gazette (Rind, Williamsburg). 7/14/1768; 114, p. 3. research.history.org/digitalibrary/VirginiaGazette/ **DeLacoudre.** Dr. DeLacoudre in Norfolk. Virginia Gazette (pub. by Alexander Purdie and John Dixon, Williamsburg, VA). Sep. 1, 1768. p. 3. research.history.org/digitalibrary/VirginiaGazette **De Laguna F.** Under Mount Saint Elias: the history and culture of the Yakutat Tlingit. Washington, D.C.: Smithsonian Institution Press, 1972. Human Relations Area Files. hraf.yale.edu/ **De La Volatile.** "Mons. De La Volatile...His artificial eyes are of a very beautiful assortment, brilliant black, languishing blue...with or without eyebrows." City Gazette (Charleston) Feb. 25, 1790. VIII(1408):2. **DeRosset AJ.** Datura Stramonium. The Medical Repository of Original Essays and Intelligence, Relative to Physic, Surgery, Chemistry, and Natural History (1800-1824). Jan 1, 1802. 5(1): 85-86. **Deui Cheau.** A French Doctor...Oculist. Maryland Journal (Balto.). Mar 30, 1779. VI(288):4. **Deveze J.** An enquiry into, and observations upon the causes and effects of the epidemic disease, which raged in Philadelphia from the month of August till towards the middle of December, 1793. By Jean Deveze, master in surgery, from Cape Français, physician of the hospital at Bush-Hill, surgeon-major and principal physician of the military hospital established by the French Republic at Philadelphia. Philadelphia: Parent, 1794. **Deveze J.** Thanks to the care and skill of M. Deveze. Aurora General Advertiser (Phila). Sep 30, 1795. 1500. 2. **Dolliver LP.** Lineage Book. National Society of the Daughters of the

American Revolution. Volume XXIV. Washington DC. 1898. p. 138. **Dorsey JS.** Elements of Surgery. Vol. 1. Philadelphia. Brown. 1813. Pp. 296-351. **Drake FS.** The Town of Roxbury, Massachusetts: Its Memorable Persons and Places, Its History and Antiquities With Numerous Illustrations of Its Old Landmarks and Noted Personages. Roxbury, Mass: Drake, 1878: 407-8. **Drew BA.** Henry Knox and the Revolutionary War Trail in Western Massachusetts. Jefferson: McFarland & Co., 2012. p. 68. **Drowne HR.** A sketch of Fraunces Tavern and those connected with its history. New York, Fraunces Tavern, 1919. pp. 8-9. **Duffield S.** Philadelphia, November, 1793. Federal Gazette (Phila). Nov 13, 1793. 3. **Dusturge RD.** Richard Durfort Dusturge. Surgeon from Europe...Oculist. New-York Gazette, and Weekly Mercury. June 16, 1777. 1338:4. **Dusturge RD.** Doctor Dastuge. Royal American Gazette (New York). Feb 11, 1783. VIII(DLV):1. **Du Tertre JB, McKusick MB, Verin P.** Histoire generale des Ant-Isles habitées par les François. Vol. 2. Paris: T. Jolly, 1667. Human Relations Area Files. hraf.yale.edu/ **Estes JW.** Hall Jackson and the Purple Foxglove. University Press of New England. Hanover, New Hampshire. 1979: 3-205. **Fitch J.** A Narrative of the treatment with which the American prisoners were Used who were taken by the British & Hessian Troops on Long Island York Island &c 1776. In: Rhodehamel J. The American Revolution: Writings from the War of Independence. Library of America 2001: 283. **Flemor J.** John Flemor, Surgeon and Practitioner in Physic, begs leave. Pennsylvania Gazette (Phila). Mar. 3, 1768. **Foissin P.** Singular Facts Relative to a Case of Blindness. The Medical Repository of Original Essays and Intelligence, Relative to Physic, Surgery, Chemistry, and Natural History (1800-1824). Jan 1, 1802. 5(1): 93-94. **Ford WC.** Commerce of Rhode Island, 1726-1800. Vol. II. 1775-1800. Boston. Mass. Historical Society. 1915. pp. 456-457. **Forget CH.** Doctor Forget...whose Skill, as an Oculist, has been denied. Pennsylvania Chronicle (Phila). Aug 8, 1768. II(27):223. **Forget CH.** To the public...Doctor Forget. Pennsylvania Journal, or, Weekly Advertiser (Phila). Feb 9, 1769. 1366:4. **Fortune R.** Lancets of Stone: Traditional Methods of Surgery among the Alaska Natives. Arctic Anthropology, 1985;22(1):23-45. **Franklin B.** Just Imported, and to be sold by B. Franklin. Pennsylvania Gazette (Philadelphia, Pennsylvania). May 25, 1738. 493:2. **Franklin B.** Opinions and Conjectures, [29 July 1750]. Founders.archives.gov **Franklin B.** From Benjamin Franklin to Cadwallader Colden, 23 April 1752. Founders.archive.gov **Franklin B.** From Benjamin Franklin to John Bartram, 17 July 1771. Founders.archives.gov **Frederick R.** Dentist, Oculist, and Physician's Instruments, Lost. Baltimore Evening Post. Oct 4, 1792. 72:4. **Frederick R.** Dr. Frederick Raymond...case of instruments. Baltimore Evening Post. Oct 13, 1792. I(80):2. **Gantt E.** "Statement of Medical Services by Edward Gantt, 2 March 1802," Founders Online, National Archives, last modified December 28, 2016. Founders.archives.gov **Gay JA.** Historia de Oaxaca. Escrita por El Presbitero. Vol. 2. Mexico: Dublan. 1881. pp. 185-186. **Gillett MC.** The Army Medical Department, 1775-1818. Washington DC. Center of Military History. 1981. p. 43-95. **Girinzer A.** Andrew Girinzer. General Advertiser (Phila) Dec 2, 1793. 933:1. **Goldthwait, Baldwin.** Goldthwait and Baldwin. Instruments...couching. Federal Gazette (Phil.). Feb. 7, 1792. p. 2. **Goss J.** Doctor Joseph Goss. Freeman's Journal; or, the North-American Intelligencer (Phila). Sep 17, 1783. III (CXXVI):2. **Goss J.** Doctor Joseph Goss...cataract on the eye, performed by a delicate operation. Pennsylvania Evening Herald (Philadelphia, Pennsylvania). July 13, 1785. I(49):4. **Goss J.** Doctor Joseph Goss. Federal Gazette (Phila). Nov 3, 1789: 3. **Goss J.** Doctor Joseph Goss...French Physician, Surgeon, and Botanist. Federal Gazette (Phila). Sep 29, 1791: 3. **Goss J.** For the Federal Gazette. Federal Gazette (Phila). Sep 4, 1793: 2. **Goss J.** For the Philadelphia Gazette. Philadelphia Gazette. Feb 25, 1794. XI(1678):2. **Gough JP.** An essay on cantharides: comprising, a brief account of their natural history; an inquiry into their mode of operation, and their use in diseases...Phila: Way, 1800: 12-15. **Graham J.** Doctor Graham, Physician and Surgeon, from London. New-York Journal. New York. Aug 23, 1770. 1442: 125. **Graham J.** My daughter, Hester Baker, 11 years of age, had the misfortune to be born deaf and dumb. New-York Gazette, and Weekly Mercury. May 20, 1771. 1021: 3. **Graham J.** Dr. Graham, Oculist and Aurist. Pennsylvania Journal, or, Weekly Advertiser (Phil.) Oct. 17, 1771. 1506: 3. **Graham J.** James Graham. Pennsylvania Chronicle (Phil.), 10/21-28/1771. V(40). p. 160. **Graham J.** "Dr. Graham, Oculist and Aurist". Pennsylvania Packet. Phil. Nov. 11, 1771. 3:4. **Graham J.** The Pennsylvania Gazette (Phil.). Jan. 23, 1772. "To Dr. Graham, Oculist and Aurist." **Graham J.** Last Week Mrs. Riceel...was couched by Dr. Graham. Pennsylvania Chronicle (Phil.) April 20, 1772. VI: (13): 51. **Graham J.** Last week Mrs. Mary Rivel...was couched by Dr. Graham. Pennsylvania Gazette (Phil.). Apr. 23, 1772. 2261: 3. **Graham J.** Mr. Isaiah Mills, who had been blind of both eyes with a confirmed Gutta Serena. Pennsylvania Packet (Phil.). May 25, 1772. 31: 3. **Graham J.** Qui visum vitam dat.—In tenebris luciens. Pennsylvania Chronicle (Phil.). Aug 15, 1772. VI(30): 124. **Graham J.** Philadelphia, August 29. Last Week, two Persons blind with Cataracts were couched by Dr. Graham. Pennsylvania Chronicle (Phil.). Aug. 29, 1772. VI(32): 131. **Graham J.** Qui visum vitam dat.—Intenebris lucens. Pennsylvania Packet (Phil.) Sep. 7, 1772. 46, Suppl. 2. **Graham J.** The Inhabitants of Lancaster, York, Reading, and Parts adjacent. Pennsylvania Journal, or, Weekly Advertiser (Phil.). Sep. 30, 1772. 1556: 1. **Graham J.** By particular desire. At the College Hall, This Evening the Seventh of April, Doctor Graham Proposes to Deliver a Lecture. Pennsylvania Journal, or, Weekly Advertiser (Phil.). Apr. 7, 1773. 1583: 4. **Graham J.** Dr. Graham Oculist and Aurist, is expected in this city from Williamsburgh in Virginia, on the 20th of June. Pennsylvania Packet (Phil.). June 7, 1773. II(85):3. **Graham J.** Last Friday arrived from Virginia Doctor Graham. Rivington's New York Gazetteer. July 15, 1773. 13:2. **Graham J.** For One Night Only...Doctor Graham. Rivington's New York Gazetteer. Aug. 26, 1773. 19: 3. **Graham J.** The following articles, which lately appeared under the New-York head. Maryland Journal. Baltimore. Oct. 16, 1773. I(9):2. **Graham J.** Yesterday about noon arrived...from Maryland, Dr. Graham. Pennsylvania Packet. Phil. Dec. 20, 1773. III(113):3. **Graham J.** An address to the inhabitants of Great Britain, Particularly to those residing in the Great Metropolis Of the British Empire. London : Printed by G. Scott, and may be had gratis at Mr. Newbery's, and at the Doctor's House in Pall-Mall, 1775. p. 14. **Graham J.** A short inquiry into the present state of medical practice, in consumptions; asthmas... To which is added, an appendix on the management and diseases of the teeth and gums. London: Newbery. 1776. 7-9. **Graham J.** A lecture on the generation, increase and improvement of the human species. London:

Smith. 1780: 58-60. **Graham J.** A sketch: or, short description of Dr. Graham's medical apparatus, &c. erected About the Beginning of the Year 1780, in his house, on the Royal Terrace, Adelphi, London. London: Almon. 1780. p. 47. **Guerra F.** American Medical Bibliography 1639-1783. New York: Lathrop C. Harper. **Hayward OS, Putnum CE.** Improve, perfect & perpetuate : Dr. Nathan Smith and early American medical education. Hanover: University Press of New England, 1998. www.dartmouth.edu **Hernández F, López Dávalos C, Jiménez F.** Quatro libros De la naturaleza, y virtudes de las plantas, y animales que estan receuidos en el uso de medicina en la Nueva España.... el Doctor Francisco Hernandez. Mexico: Lopez Dávalos, 1615. **Hernández F, Varey S.** The Mexican treasury : the writings of Dr. Francisco Hernández. Stanford: Stanford University Press, 2000. **Hirschberg J.** The History of Ophthalmology. Vol. 3. The Renaissance of Ophthalmology in the Eighteenth Century (Part One). (translated by Blodi FC). Bonn, Wayenborgh Verlag; 1984, pp. 160-1. **Hoady CJ.** The Public Records of the Colony of Connecticut, from May, 1744, to November, 1750, Inclusive. Harford: Lockwood. 1876. p. 526. **Hocker EW.** Genealogical data relating to the German settlers of Pennsylvania and adjacent territory : from advertisements in German newspapers published in Philadelphia and Germantown, 1743-1800. Baltimore: Genealogical Pub. Co., 1989, p. 151. **Hoenig LJ.** The arthritis of Christopher Columbus. Arch Intern Med. 1992 Feb;152(2):274-7. **Holden JA.** Influence of death of Jane McCrea on Burgoyne Campaign. Proceedings of the New York State Historical Association. 1913; 12: 249-310. **Hull OC, Oliver C.** Hull...couching instruments. Mail; or, Claypoole's Daily Advertiser (Philadelphia, Pennsylvania) January 21, 1792. 202: 1. **Hunter JD.** Manners and Customs of Several Indian Tribes Located West of the Mississippi. Philadelphia. Maxwell. 1823. pp. 387-400. **Hurd DH.** History of New London county, Connecticut. Phil: J.W. Lewis & Co. 1882. p. 509. **Hurd HM.** Life of Dr. Lyman Spalding. Bull Med Libr Assoc. 1919; 8(3): 29-38. **Jackson JBS.** A descriptive catalogue of the Warren Anatomical Museum. Boston: Williams. 1870. p. 51. **Jefferson T.** From Thomas Jefferson to John Page, 20 January 1763. Founders.archive.gov **Jefferson T.** Memorandum Books, 1773. Founders.archive.gov **Jefferson T.** Memorandum Books, 1789. Founders.archive.gov **Jefferson T.** From Thomas Jefferson to Martha Jefferson Randolph, 27 December 1798. Founders.archive.gov **Jefferson T.** "Thomas Jefferson to William D. Meriwether, 21 August 1810," Founders Online, National Archives, last modified December 28, 2016, founders.archives.gov **Jericho FW.** Specimen Medico Chirurgicum Inaugurale. Sistens Modum Sectionis Oculi in Cataracta Instituendae, Variasque Circa Ophtalmotomiam Cautelas Cui Accedit Observatio Practica de Tumore Oculi Insolito. Utrecht, Trajecti ad Rhenum, Joannis Broedelet. 1767. pp. 20-21. **Jericho FW.** "Catharacts in the Eyes. Frederick William Jericho, ..." Morning Post and Daily Advertiser (London), Oct 4, 1776; Issue 1231. **Jericho FW.** Blindness, various Disorders of the BODY, GRAVEL, &c. Frederick William Jericho. Public Advertiser (London) 10/19/1776; 13109. **Jericho FW.** To the Public. As Dr. Jericho has referred himself to the Gentlemen of his Majesty's Caribee Islands. London Evening Post. May 1, 1777, p. 2. **Jones D.** Sanapia, Comanche medicine woman. New York: Holt, Rinehart and Winston, 1972. p. 76. **Jones J.** Plain concise practical remarks on the treatment of wounds and fractures: to which is added, a short appendix on camp and military hospitals ; principally designed for the use of young military surgeons, in North-America. New York. Holt. 1775. **Kelly HA.** Some American medical botanists commemorated in our botanical nomenclature. Troy, N. Y., The Southworth company: 1914. pp. 81-129. **Kidder N.** Nathaniel Kidder...Instruments for...couching. Massachusetts Spy (Boston Massachusetts). February 17, 1774. III(159):4. **Kiesselbach G.** George Kiesselbach, Late from Germany, Physician, Surgeon, Oculist, and Man-Midwife. City Gazette (Charleston). Nov 5, 1790. VIII(1619):3. **Kiesselbach G.** George Kiesselbach, Physician, Surgeon, and Oculist. New-York Daily Gazette. Sep 29, 1794. 1799:4. **Kiesselbach G.** George Keisselbach, Physician, Surgeon, and Oculist. Federal Orrery. Boston. Nov 12, 1795. III(7):28. **Kiesselbach G.** George Kiesselbach, Physician, Surgeon, and Oculist. Newport Mercury (Newport). Jan 19, 1796. 1761:4. **Kiesselbach G.** George Kiesebebach, Physician, Surgeon, and Oculist. Gazette of the United States (Phila). June 14, 1798. XIII(1797):3. **King RJ.** An inaugural essay on blisters: submitted to the examination of the Rev. John Ewing, S.T.P. provost...Phila: Way, 1799: 24. **Koch HR.** 2000 Jahre Bonner Augenheilkunde. Koch Verlag. Bonn. 2014;34-99. **Lamb J.** To the publick. New-York Journal. Jan 14, 1773. 1567:832. **Leffler CT, Letocha CE, Pierson K, Schwartz SG.** Aspiration of cataract in 1815 in Philadelphia, Pennsylvania. Digital Journal of Ophthalmology: DJO. 2017;23(4):95. **Le Page du Pratz AS.** The history of Louisiana, or of the western parts of Virginia and Carolina : containing a description of the countries that lie on both sides of the river Mississippi...New Orleans: Pelican, 1947, pp. 42-43. **Leprilete L.** Dr. Lewis Leprilete, a Gentleman from France, lately married and settled in this Town. United States Chronicle (Providence). 1/27/1785; II(57): p. 3. **Leprilete L.** Dr. Lewis Leprilete (a Surgeon from France now living at Norton) has since performed the Operation for the Cataract on a Person at Warren with Success. United States Chronicle (Providence). June 1, 1786. III(127): 3. **Leprilete L.** Will of Lewis Leprilete. Died July 29, 1804. Case number 11-534. Vol. 10, page 499. Town of Franklin. Norfolk County, Massachusetts. **Letocha CE.** The invention and early manufacture of bifocals. Surv Ophthalmol. 1990; 35(3):226-35. **Levine J.** John Levine...an Eye-Water...for Cataracts, Tumours. New-York Mercury. May 3, 1762. 509:3. **Levine J.** John Lavine, Oculist...Cures all Disorders in the Eyes. New-York Mercury. Oct. 3, 1763. 623:4. **Levine J.** The Cosmetic Lotion...at Dr. John Levine's. New-York Mercury. Nov. 23, 1767. 838:4. **Little S.** To be Sold, By Stephen Little...An Assortment of Medicines and Groceries. New-Hampshire Gazette. Portsmouth, New Hampshire. Sep. 19, 1766. X(520): 4. **Little S.** Stephen Little, Surgeon and Oculist...performs the Operation of Couching the Eye, when disorder'd by a Cataract. New-York Gazette, and Weekly Mercury. Feb 10, 1772. 1059. 2. **Little S.** New-York...the eyes of Catherine Kyson, of this city, aged 72 years, was couched by Doctor Stephen Little, of Portsmouth. Massachusetts Spy. Boston. Mar. 26, 1772. II (56): 15. **Livingston WF.** Israel Putnam, pioneer, ranger, and major-general, 1718-1790. 1905. p. 84-94. **Loudon I.** Why are (male) surgeons still addressed as Mr? BMJ. 2000 Dec 23; 321(7276): 1589-1591. **Ludwig.** Doctor Ludwig. Maryland Journal (Balto). Dec 5, 1783. X(87):1. **Magruder N.** An inaugural dissertation on the small-pox: submitted to the examination of the Rev. John Ewing, S.S.T.P provost...Phila: Poulson, 1792: 13-24. **Mather C, Jones GW (ed.).** The angel of Bethesda. Barre (MA): Barre, 1972: 155-160, 358-9.

McHenry J. To George Washington from James McHenry, 21 June 1777. Philadelphia. Founders.archives.gov **Medical** Society of South Carolina Meeting Minutes: 1789-1810. Medical Society of South Carolina. pp. 13-225. digital.library.musc.edu/cdm/ **Mercier F.** Doctor Louis, welcher lo eben von Paris. Wochentliche Philadelphische Staatsbote (Phil.). Jan. 18, 1774. 626: 3. **Mercier F.** Doctor Louis, just Arrived from Philadelphia. Newport Mercury. Apr. 18, 1774. 815:3. **Mercier F.** Doctor Louis informs the public. Newport Mercury. May 9, 1774, 818: 3. **Mercier F.** Doctor Louis, Oculist and Dentist. The Essex Gazette. Salem, Mass. June 21, 1774. VI(308):184. **Mercier F.** "Doctor Louis...will.couch the Eyes of Elizabeth Donaldson" The Providence Gazette; and Country Journal. May 21, 1774. XI(541):3. **Mercier F.** To Doctor Louis, Occulist and Dentist. Boston Post-Boy. May 30, 1774. 876:4. **Mercier F.** "Doctor L. Boduin, Occulist and Dentist from France..." Connecticut Journal (New Haven). Aug. 30, 1775. 411:2. **Mercier F.** "Doctor Dubuke oculist and dentist, just arrived from Boston" The New-York Journal; or, The General Advertiser. Nov. 30, 1775. **Mercier F.** Doctor Dubuke, oculist and dentist, just arrived from Boston. New-York Journal. Dec. 21, 1775. 1720:4. **Mercier F.** Doctor Dubuke, Occulist and Dentist, Just Arrived from Boston. Constitutional Gazette (New York). Oct. 14, 1775. 22:4. **Mercier F.** Doctor Dubuke, Occulist and Dentist, Just Arrived from Boston. New-York Journal. Jan. 4, 1776. 1722: 4. **Mercier F.** Doctor L. Butte and Co. Surgeon Dentist. Pennsylvania Packet (Phil.) Apr. 29, 1776. V(236):Suppl. 2. **Mercier F.** John Dupuis, and Co. Surgeons and Dentists, lately from France. New-York Gazette, and Weekly Mercury. Feb. 24, 1777. 1322: 3. **Mercier F.** Doctor L. Butte and Co. Surgeon Dentist. Pennsylvania Evening Post (Phil.). July 4, 1776. II(227):334. **Mercier F.** John Dupuis, and Co. Surgeons and Dentists, lately from France. New-York Gazette, and Weekly Mercury. Mar. 3, 1777; 1323: 4. **Montague A.** "Montague, Abigale, autographed letter signed to John Winthrop; Hadley, Mass., 1 side (2 pages), 1663 July 19," Colonial North American Project at Harvard. colonialnorthamerican.library.harvard.edu/items/show/11990. **Moore W.** Pennsylvania. By the Honorable William Moore, Esq; Vice President, and the Supreme Executive Council of the Commonwealth of Pennsylvania, a Proclamation. Pennsylvania Packet (Phil.). Oct 3, 1780. p. 3. **Mortimer B.** A history of the town of Franklin, Mass. Franklin, Massachusetts. Franklin, Mass., Committee of the Town 1879. p. 176-94. **Morton TG.** Woodbury F. The history of the Pennsylvania Hospital, 1751-1895. Philadelphia. Times Printing House. 1897. p. 1-495. **Murray RC.** R. C. Murray (Occulist)...performs the different operations on the eye. Telegraphe and Daily Advertiser (Balto.). Feb 27, 1799: 4. **New York Hospital.** No. I. Charity extended to all. State of the New-York Hospital for the year 1797. 1797:4-5. **New York Hospital.** State of the New York Hospital for the year of 1803. New York: 3. **Nissen JP.** Reminiscences of a 46 years' residence in the island of St. Thomas, in the West Indies. Nazareth, Pa., Senseman & Co., 1838. pp. 29-33. **No author listed.** The general laws and liberties of the Massachuset colony: revised & re-printed, by order of the General Court holden at Boston. May 15th. 1672. Edward Rawson secr. Boston. 1672: 105. **No author listed.** The laws of the province of Pennsylvania, passed by the governour and General Assemblies of said province, held at Philadelphia in the years 1715, 1717 and 1718. Phila. Bradford. 1718: 312. **No author listed.** Acts passed by the General Assembly of South-Carolina, May 10, 1740-July 10, 1742. Charleston. 1742. **No author listed.** King's-College, New-York, Sept. 17, 1767. New-York Gazette, or Weekly Post-Boy. 1290. 3. **No author listed.** Philadelphia. College of Philadelphia, June 21, 1768. Pennsylvania Journal, or, Weekly Advertiser (Phil.). June 30, 1768. 1334:2. Piece One of Two. **No author listed.** A stranger, lately arrived here, who calls himself Dr. Anthony Yeldall, and sells medicines from a stage. September 2, 1771. Pennsylvania Chronicle (Phil.). Sep 2, 1771. V(32): 127. **No author listed.** Matthew Emerson and Peter Eastmead respectively charged Francis Mercier with stealing a Gelding from each of them. Public Advertiser (London), Dec. 24, 1772. 11780: 3. **No author listed.** Huntington, November 28. This Day, a Man died in this Town, of a Rupture, of many Years standing. New-York Journal. Jan. 7, 1773. 1566: 825. **[No author listed]** Francis Mercier, theft, animal theft, 17th February 1773. Proceedings of the Old Bailey. 1773. Oldbaileyonline.org **No author listed.** The following were respited during his Majesty's pleasure. Lloyd's Evening Post (London), Apr 7-9, 1773; 2461: 2. **No author listed.** And to the following, on the condition of transportation for seven years. General Evening Post (London), April 20-22, 1773; Issue 6167: 1. **No author listed.** Baltimore September 4. The Maryland Journal And The Baltimore Advertiser. Aug. 28, 1773: 10. **No author listed.** On Saturday Night last the House of Doctor John Boyd, of this Town, was broke open. Maryland Journal (Balt.). Aug. 28, 1773. I(3):10. **No author listed.** On the night of the 30th Ult. The Shop of Mr. Patrick Kennedy, Surgeon and Apothecary, was entered. Maryland Journal (Balt). Sep. 4, 1773. I(4):15. **No author listed.** Norwich (in Connecticut) October 14. Yesterday morning Doctor Anthony Yeldall, John McDonald, and Michael Handley, were apprehended at Preston, as strollers and idlers. Pennsylvania Chronicle (Phil.). Nov 1, 1773. VII(41):375. **No author listed.** Shipping News. Pennsylvania Chronicle (Phil). Dec 13, 1773. VII(47):400. **No author listed.** Capt. Lowell, of Newbury-Port. New-Hampshire Gazette (Portsmouth). Feb 4, 1774. XVIII(902):3. **No author listed.** Last Saturday was committed to Goal in this Town, the well known Quack, Dr. Louis. Boston Post-Boy. July 11, 1774. 882:3. **No author listed.** Monsi. Dr. Boduin...has been detected, in stealing from an apothecary's shop here. Connecticut Journal (New Haven). Sep 6, 1775. 412:3. **No author listed.** Dr. Dubuke, a Frenchman. Constitutional Gazette. New York. Mar 9, 1776. 64:3. **No author listed.** Francis Mercier, otherwise Louis Le Butte, was indicted for the wilful murder of David Samuel Mondrey, October 12. Proceedings of the Old Bailey. 1777. Oldbaileyonline.org **No author listed.** Lewis Debutte, alias Francis Mercier, now in custody of the wilful murder of David Demourdrey. London Evening Post Oct. 16, 1777. 8972:4. **No author listed.** The following barbarous murder was committed, a few nights ago, by one Lewis Buttle, alias Francis Mercier. Morning Post and Daily Advertiser (London), Oct 18, 1777; Issue 1558. **No author listed.** The real name of the interpreter, the murderer of Monsieur Valencia Moudroit is not Francis Le Mercier, but Postolle Bouvet. Morning Chronicle and London Advertiser, Oct 20, 1777; 2626: 3. **No author listed.** Mercier (whose real name is Le Mercier, and not Bouvet) is the son of the postmaster of Toul in Lorraine. London Evening Post, Oct 21-23, 1777; Issue 8674: 1. **No author listed.** Dr. Louis Beatté, alias Francis Mercier, for the murder of

David Samuel Moudrey. London Evening Post. Oct. 23, 1777. 8975:1. **No author listed.** Francis Mercier, alias Lewis Le Butte, was...carried to the Corner...where the Gallows was erected. Public Advertiser. Dec 9, 1777. 13869:2. **No author listed.** Yesterday morning Francis Mercier, alias Louis le Butte, convicted on Friday of the willful murder of Davis Samuel Moudrey, was executed. Gazetteer and New Daily Advertiser (London), Dec 9, 1777; 15(233):1. **No author listed.** "Yesterday Morning, Louis de Butte, alias Francis Mercier, was...executed." St James Chronicle Or British Evening Post. Dec 6 to 9, 1777. 2632:3. **No author listed.** Yesterday Morning, about Half past Nine o'Clock, Louis de Butte, alias Francis Mercier, was carried from Newgate, and executed at the End of Princes Street. St James Chronicle Or British Evening Post December 6 to 9, 1777. 2632: 3. **No author listed.** Francis Mercier, executed on Monday, had intended to make away with himself in order to evade suffering the ignominious death to which he was sentenced. Gazetteer and New Daily Advertiser (London), Dec 10, 1777; 15(234):3. **No author listed.** The defenders of British cruelty have uniformly denied the American charges against our enemies for their inhumanity. The Pennsylvania Gazette. Philadelphia. May 23, 1778. p. 1. **No author listed.** From the Pennsylvania Gazette to the Printers. Dunlap's Maryland Gazette Or The Baltimore General Advertiser. June 2, 1778: 1. **No author listed.** From the Pennsylvania Gazette. The Providence Gazette and Country Journal. June 20, 1778. 1. **No author listed.** Francis Mercier, executed on Monday last for the murder of Monsieur de Moubrey, a jeweler, was in the year 1773 transported to Maryland for horse stealing. The Royal Gazette (New York). July 8, 1778: 2. **No author listed.** Philadelphia, December 12. At a Court of Oyer and Terminer and General Gaol Delivery, held at Philadelphia. Pennsylvania Packet (Phil.). December 12, 1778. p. 3. **No author listed.** Lately arrived in this town, a French Doctor and Surgeon. Pennsylvania Packet (Phila). Apr 29, 1779: 1. **No author listed.** To be sold...a case of couching instruments...Enquire of the Printer. Pennsylvania Packet (Phil.). Aug 1, 1780. p. 1. **No author listed.** Providence, Sept. 8. Providence Gazette. Sep. 8, 1787. XXIV: 1236(3). **No author listed.** Massachusetts. Boston, July 19. Wednesday last, being the anniversary of Commencement, at the University in Cambridge. Massachusetts Spy (Worcester). July 24, 1788. XVII(799):3. **No author listed.** Died. At Poughkeepsie after a short illness, Doc. Charles Crooke... New-York Packet. Sep. 12, 1788. 836: 3. **No author listed.** Charles Crooke, Physician, deceased. Poughkeepsie Journal. Poughkeepsie, NY. Sep 8, 1791. 319: 4. **No author listed.** Died...Dr. Charles McKnight...oculist. Maryland Journal (Balto). Nov 25, 1791. XVIII(94):2. **No author listed.** Extract of a letter from a gentleman in Middletown (Monmouth) dated Feb. 9. Mail; or, Claypoole's Daily Advertiser (Phil.). Feb. 16, 1792. 224:3. **No author listed.** Cleared. Sloop Bermudiana, Bartlett, for a Cruise. Bermuda Gazette and Weekly Advertiser. Nov 2, 1793. No. 511. p. 4. bnl.contentdm.oclc.org/cdm/ **No author listed.** Prizes arrived: Schooner Swallow, from Martinique, prize to sloop Bermudiana, Capt. Bartlett...Brig Sally, from Guadeloupe prize to sloop Bermudiana, Capt. Bartlett. Bermuda Gazette and Weekly Advertiser. Dec 21, 1793. No. 518. p. 4. bnl.contentdm.oclc.org/cdm/ **No author listed.** Baptismal Records. Port Royal (St. Anne's) Church. Southampton, Bermuda. 1794. person.ancestry.com/tree/5696755/person/24888422879/facts **No author listed.** On Monday arrived the privateer sloop Bermudiana from a successful cruise against the French. The Bermuda Gazette and Weekly Advertiser. January 25, 1794. No. 523, p. 4. bnl.contentdm.oclc.org/cdm/ **No author listed.** Schooner Mercy, from St. Domingo, prize to the Sloop Bermudiana, Capt. Charles F. Bartlett. The Bermuda Gazette and Weekly Advertiser. Feb. 8, 1794. No. 525. p. 1. bnl.contentdm.oclc.org/cdm/ **No author listed.** Piracy. Charleston, Jan. 18. The schooner Mercy. Shipping News. Dunlap's American Daily Advertiser. Phila. Mar 22, 1794. 4663: 3. **No author listed.** Nassau, December 27. New-York Daily Gazette, New York. Mar 26, 1794. 1640: 2. **No author listed.** Providence, September 10...the anniversary commencement of Rhode-Island college. Gazette of the United States (Phila). Sep 17, 1796. X(1256): 2. **No author listed.** Providence, Sept. 9. New-York Gazette. Sep 17, 1799. 4295: 2. **No author listed.** In the ship Minerva, arrived at Boston in 31 days from London, came passenger Mr. Horace Senter. Newport Mercury. Newport. Nov 15, 1800. 2013:Suppl 2. **No author listed.** Died...Mrs. Senter, widow of the late Dr. Senter, of Newport. Providence Phoenix. Sep 7, 1802. I(18): 3. **No author listed.** Arrived. John Gilpin, Esq; Consul of his Britannic Majesty. Rhode-Island Republican (Newport). June 11, 1803. **No author listed.** In this City, on the evening of the 19th inst. Doctor Horace Senter, of Newport. Columbian Museum (Savannah). Jan 25, 1804: 3 III(141):3. **No author listed.** Extract of a Letter from a Gentleman at Charleston, (South Carolina) to His Friend in This Town. American Citizen (New York). Feb 10, 1804. 4(1204):2. **No author listed.** Concerning the Hon. John Rutledge, of South-Carolina, and Dr. Horace Senter. Newport Mercury. Feb 11, 1804. 2183: 3. **No author listed.** Captain Oldridge. Providence Phoenix. Feb 11, 1804. II(92): 3. **No author listed.** John Rutledge. Bee (Hudson, New York). Feb 14, 1804. II(79):3. **No author listed.** Extract of a Letter from a Gentleman in Charleston (S. C.) to His Friend in New-Port, Dated Jan. 14, 1804. Columbian Courier (New Bedford). Feb 17, 1804. VI(12):3. **No authors listed.** By order of John B. Prevost. Daily Advertiser (New York). Feb 20, 1804. XX(5897):4. **No author listed.** A Newport paper after mentioning the death of Dr. Horace Senter. Salem Register. Feb 23, 1804. V(16):3. **No author listed.** From the Boston Democrat. Eastern Argus (Portland, Maine) Aug 16, 1804. I(50):1. **No authors listed.** Died, At Darion [Darien], on the 22d ult. Dr Charles F. Bartlett. Evening Post (New York). Aug 15, 1806. 1462: 3. **No author listed.** Hartford, March 14. Boston Daily Advertiser. Mar 25, 1817. XVI(72):2. **No author listed.** Science Literature, And The Arts. National Advocate (New York). Feb 23, 1821. IX(2320): 2. **No author listed.** Biographical Sketch of William Baynham, Esq. Surgeon, late of Essex County, Virginia. Philadelphia journal of the medical and physical sciences. 1822. IV (7): 186-203. **No authors listed.** Hartford Dispensary, and Surgical Infirmary. Connecticut Mirror (Hartford). Feb 27, 1830. XXI(1078):3. **No author listed.** Obituary. Medical Communications of the Massachusetts Medical Society. Vol. VIII. Second Series—Vol. IV. Boston: Massachusetts Medical Society. 1854. pp. 171-174. **No author listed.** Journals of the Continental Congress 1774-1789. Vol. XIX. 1781. Jan. 1-Apr. 23. Washington. Government Printing Office. 1912. pp. 275-277. **No authors listed.** Rhode Island Historical Society Collections. Rhode Island Historical Society. July 1920. XII(3): 95. **No authors listed.** Naval Documents related to the Quasi-War between the United States and France. Vol. I. Part 3 of 3. Naval Operations from

February 1797 to October 1798. United States Government Printing Office. Washington. 1935. Pp. 544-6. www.ibiblio.org/anrs/docs/E/E3/nd_quasiwar_v01p03.pdf **No authors listed.** Naval Documents related to the Quasi-War between the United States and France. Vol. VI. Naval Operations from June to November 1800. Washington. United States Government Printing Office. 1938. P. 263-4. www.ibiblio.org/anrs/docs/E/E3/nd_quasiwar_v06.pdf **No author listed.** Application for Josiah Bartlett. National Society of Sons of the American Revolution, Membership Applications, 1889-1970. Louisville, Kentucky: Vol 321. pp. 178-179 Ancestry.com. **Norman ME, Albertson D, Younge BR.** Ophthalmic manifestations of lightning strike. *Survey of Ophthalmology* 46.1 (2001): 19-24. **Oldys W.** Observations on the cure of William Taylor, the blind boy of Ightham, in Kent; who being born with cataracts in both eyes, was at eight years of age, brought to sight, on the 8th of October, 1751, by Mr. John Taylor, jun. oculist. London: Owen, 1753. p. 22. **Oliver VL.** Caribbeana: being miscellaneous papers relating to the history, genealogy, topography, and antiquities of the British West Indies. Vol. 3. London: Mitchell. 1914: 168. **Onderdonk H.** Revolutionary incidents of Suffolk and Kings Counties: with an account of the Battle of Long Island and the British prisons and prison-ships at New York. New York. Leavitt. 1849. p. 218. **Osborn T.** "A quantity of kitchen and household furniture." *State Gazette of South-Carolina (Charleston)*. Nov 29, 1792. LV(4142):1. **Packard FR.** The history of medicine in the United States; a collection of facts and documents relating to the history of medical science in this country, from the earliest English colonization to the year 1800. Phila: Lippincott, 1901. pp. 385-386. **Pearse MG.** Portland-Street Chapel, Bristol. *Wesleyan-Methodist Magazine*. Vol. 8. July 1884. p. 522. **Pelham C.** The chronicles of crime; or, The new Newgate calendar. Being a series of memoirs and anecdotes of notorious characters who have outraged the laws of Great Britain from the earliest period to 1841. London, 1886: 272-3. **Pflag FC.** Frederick Carle Pflag, Surgeon of the Hessian Grenadier Battallion. *Royal American Gazette (New York, New York)*. September 22, 1778. CVIII:3. **Phelps AA.** The life of Mrs. Fanny L. Bartlett: consort of the late Dr. Oliver C. Bartlett. Boston: H.V. Degen, 1860. **Phillips GN.** Gabriel N. Phillips. Physician and Surgeon. *North-Carolina Journal (Halifax)*. May 8, 1793. 43: 4 **Philodemos.** The late frequent robberies must certainly alarm every trading inhabitant in this town. *Maryland Journal (Balto.)*. Sep. 18, 1773. I(5):4. **Pole E.** Surgeons Instruments and Medical Books, Belonging to the estate of the late Doctor John Foulke. *Claypoole's American Daily Advertiser*. Phila. Dec 28, 1796. 5530:2. **Pope W.** The life of the Right Reverend Father in God, Seth, Lord Bishop of Salisbury...Dr. Turberville, and others. London: Keblewhite, 1697: 103-6. **Post J.** Diary, 1792 Sep. 26-1793 Feb. 28. Unpublished manuscript from the New-York Historical Society Library. **Post J, Post J.** Joel and Jotham Post. *Daily Advertiser*. New York. May 25, 1794. X(2894):4. **Powell M.** "Margaret Powell...undertakes the Cure of all Rhumatic Pains...and Cataracts of the Eyes..." *The New-York Gazette: or, the weekly Post-Boy*. Number 601. Aug 5, 1754. p. 1-6. **Prentice S.** Samuel Prentice...in...Worcester...Cutting for the Fistula Lachrymalis. *Massachusetts Spy (Worcester)*. Feb 6, 1783. XII(614):4. **Prince J.** "Artificial Eyes...Supply'd...by Capt. Joseph Prince, at his House in Milk Street Boston." *Boston News-Letter*. Aug. 17, 1738. 1795: 2. **Rabenjamina FR, Ranaivoravo J, Raholimina V, Ramialiharisoa A.** A case report of bronchial cysticercosis. *Arch Inst Pasteur Madagascar*. 2000;66(1-2):43-5. **Rapin J.** "To Thomas Jefferson from Joseph Rapin, 17 May 1802," *Founders Online, National Archives*, last modified December 28, 2016, founders.archives.gov **Raymond F.** Mr. Raymond Frederick, Surgeon and Man Midwife, Oculist and Dentist, lately from the West-Indies. *Daily Advertiser (New York, New York)*. January 20, 1792. VIII(2160): 3. **Raymond F.** Mr. Frederick Raymond...has lately arrived here from the Island of St. Domingo...As an Oculist... puts in artificial eyes. *Baltimore Evening Post*. Baltimore. July 26, 1792. 12:1. **Reed B.** Wilhelm von Knyphausen. 2016. Mountvernon.org **Rivington J.** James Rivington has...for the accommodation of persons, with couched & weak eyes...Green and white spectacles. *Daily Advertiser (New York)*. Apr. 26, 1793. IX(2557):3. **Rivington J.** Mr. Adams's own manufactured Spectacles for dim...and couched eyes, are to be had of James Rivington. *Daily Advertiser (New York, New York)*. January 10, 1794. X(2778):3. **Roberts H, Pemberton I.** Abstract of Cases admitted into the Pennsylvania Hospital, from the Eleventh of the Second Month, 1752, to the Twenty-seventh of the Fourth Month, 1754. *Founders.archives.gov* **Rochefort C, Davies J, Breton R.** The history of the Caribby-islands, viz, Barbados, St Christophers, St Vincents, Martinico, Dominico, Barbouthos, Monserratt, Mevis, Antego, &c London: Dring. 1666. pp. 125-6. **Ruiz de Alarcon H, Coe MD, Whittaker G.** Aztec Sorcerers in Seventeenth Century Mexico: The Treatise on Superstitions by Hernando Ruiz de Alarcon. Albany. State University of New York at Albany. 1982. Pp. 234-5. **Ruiz de Alarcon H, Andrews JR, Hassig R.** Treatise on the Heathen Superstitions That Today Live Among the Indians Native to This New Spain, 1629. 1st ed. Norman: Univ Oklahoma Press. 1984. **Rush B.** Medical inquiries and observations. By Benjamin Rush, M.D. professor of the institutes of medicine, and of clinical practice in the University of Pennsylvania. Vol II. Phila: Dobson, 1793:283. **Schémann JF, Doumbo O, Malvy D, Traore L, Kone A, Sidibe T, Keita M.** Ocular lesions associated with malaria in children in Mali. *Am J Trop Med Hyg*. 2002 Jul;67(1):61-3. **Schmitt RC.** "Two Centuries of Eye Care in Hawai'i." (1985). *The Hawaiian Journal of History*. 1985. 19: 134-148. **Senter H.** H. Senter. Having returned from England. *Newport Mercury*. Jan 6, 1801. 2021: 1. **Senter H.** As the Operations for the Stone in the Bladder, and the Extraction of the Cataract from the Eye. *Providence Gazette*. Nov 21, 1801. XXXVIII(1777):3. **Senter H.** Horace Senter of Newport Physician, being sworn. *Newport Mercury*. Oct 19, 1802. 2115: 3. **Senter H.** To the Hon. John Rutledge, Esq. *Providence Gazette*. Oct 30, 1802. XXXIX(2026): 2. **Senter I.** The Journal of Isaac Senter, M.D., on a Secret Expedition against Quebec, 1775. *The Magazine of history with notes and queries*. Volume 11. No. 42. 1915. New York: William Abbatt. pp. 1-136. **Sharma R, Dey AK, Joshi K, Thakkar H.** Ocular cysticercosis with intermittent blindness. *Ann Parasitol*. 2015;61(4):295-7. **Sharp S.** A treatise on the operations of surgery. London: Tonson, 1751: 232-262. **Sharp S.** A treatise on the operations of surgery. London: Tonson, 1761. pp. 238-270. **Shipman W.** "Instruments, one case of do. for couching the eyes." *New-York Gazette, and Weekly Mercury (New York, NY)*. Mar. 7, 1768. Issue: 853; p. Suppl. 2. **Shippen W.** For the Pennsylvania Packet...1 case of couching instruments. *Pennsylvania Packet (Phil.)*. Dec. 23, 1780. 692: 4. **Shippen W, Corner BC.** William Shippen, Jr., pioneer in American medical education; a biographical essay. With notes, and

the original text of Shippen's student diary, London, 1759-1760; together with a translation of his Edinburgh dissertation, 1761. Philadelphia. American Philosophical Society, 1951, p. 19. **Short** T. *Medicina Britannica: or A treatise on such physical plants, as are generally to be found in the fields or gardens in Great-Britain...* With a preface by Mr. John Bartram, botanist of Pennsylvania. [Phila]. B. Franklin. 1751. **Skinner** RC. "Letter from Richard Cortlandt Skinner to Benjamin Franklin" Philadelphia 1788. franklinpapers.org **Skinner** RC. "Skinner, Surgeon-Dentist...Mr. Skinner substitutes artificial eyes in such a curious manner as to hide the deformity occasioned by the loss of an eye." New-York Packet. Nov 24, 1791. 1218:3. **Skinner** RC. Connecticut Courant (Hartford) "Dr. Skinner...Surgeon, Dentist, and Oculist" May 18, 1795. XXX(1582):4. **Skinner** RC. "Richard C. Skinner deposited in this office...A Treatise on the Human Teeth." Republican Watch-Tower (New York) July 8, 1801. II : 237: 3. **Skinner** RC. A Treatise on the Human Teeth. New York: Johnson & Stryer. p. 25. **Skinner** RC. "Dr. Skinner...sets artificial Eyes..." Hampshire Federalist (Springfield, Massachusetts). April 8, 1806. I(14):3. **Sloane** H. A voyage to the islands Madera, Barbados, Nieves, S. Christophers and Jamaica...Vol. I. London: B. M., 1707. **Sloane** H. A voyage to the islands Madera, Barbados, Nieves, S. Christophers and Jamaica...Vol II. London: B. M., 1707. **Smith**, Harris. Smith and Harris...Surgeons Instruments...Eye probes. Pennsylvania Journal, or, Weekly Advertiser (Phil.). March 10, 1763. 1057: 1. **Smith** EA, Smith N, Welch WH. The Life and letters of Nathan Smith. New Haven. Yale Univ. Press 1914. p. 47. **Smith** W. William Smith...instruments...couching. Pennsylvania Packet (Phil.). Jan 19, 1782. XI(835):4. **Smith** W. William Smith...couching instruments. Feb. 22, 1783 Paper: Pennsylvania Packet (Phil.). Feb. 22, 1783. XII(1006):4. **Southwell** T. Medical essays and observations, abridged from the memoirs of the Royal Academy. London: Knox [1764]. p. 140. **Spalding** JA. Dr. Lyman Spalding, the originator of the United States pharmacopoeia, co-laborer with Dr. Nathan Smith in the founding of the Dartmouth medical school, and its first chemical lecturer, president and professor of anatomy and surgery of the College of physicians and surgeons of the Western district, at Fairfield, N.Y. Boston, W.M. Leonard, 1916. p. frontispiece-139. **Sparhawk** J. *Essentia euphragiae. A specific remedy for weakness of sight and all complaints of the eyes ... prepared by directions of Dr. Hill, and sold by Mr. Jackson in St. James's Street London, and by Dr. John Sparhawk of Philadelphia.* Phila: Sparhawk, 1770:1. **Sparhawk** J. John Sparhawk...couching and dissecting instruments. Pennsylvania Packet (Phil.). Nov. 9, 1772. Vol. II; Issue 55; p. 3. **Sparhawk** J. John Sparhawk...couching and dissecting instruments. Pennsylvania Packet (Phil.). Mar. 22, 1773. II(74):3. **Sparhawk** J. John Sparhawk...Couching instruments. Pennsylvania Packet (Phil.). Mar. 20, 1781. X(716):4. **Steiner** WR. Dr. Elisha North, of New London, Connecticut, the Founder of the First Eye Infirmary in the United States. Trans Am Ophthalmol Soc. 1932; 30: 374-386. **Stiles** E, Dexter FB (editor). The Literary Diary of Ezra Stiles, D.D., LL.D. Volume I. January 1, 1769-March 13, 1776. New York. Charles Scribner's Sons. 1901. **Stiles** E, Dexter FB (editor). The Literary Diary of Ezra Stiles, D.D., LL.D. Volume II. March 14, 1776-December 31, 1781. New York. Charles Scribner's Sons. 1901. **Stoddard**. Hudson, (New-York)...John Brasse, of the manor of Livingston, had a large wen...cut out of his forehead, right eye-brow and lid. June 28. Massachusetts Gazette (Boston). July 13, 1787. VI(347): 4. **Stone** H. The Experiences of a Prisoner in the American Revolution. Recollections of Thomas Stone. The Connecticut Magazine. Vol. 12(2):245-7. **Stone** WL. The campaign of Lieut. Gen. John Burgoyne: and the expedition of Lieut. Col. Barry St. Leger. Albany, New York. Joel Munsell. 1877. pp. 307-309. **Stork** W. Doctor Stork. Surgeon and oculist to her Royal Highness the princess of Wales. Kingston Journal (Kingston, Jamaica), 11/29/1760; 3. **Stork** W. Doctor Stork, Surgeon and Oculist to Her Royal Highness the Princess of Wales. Boston News-Letter. Sep. 6, 1764. 3159:4. **Stork** W. An Account of East Florida; with a Journal kept by John Bartram of Philadelphia, upon a Journey from St. Augustine up the River St. John's. Griffiths, Ralph (ed.). Monthly Review, or, Literary Journal, 35 (Dec 1766): Art. 16. 467-467. **Stork** W. An account of East-Florida, with a journal, kept by John Bartram of Philadelphia, botanist to His Majesty for the Floridas; upon a journey from St. Augustine up the River St. John's. London: Nicoll. 1767. Pp. 17-64. **Swanton** JR. Social condition, beliefs, and linguistic relationship of the Tlingit Indians. Washington, D.C.: Smithsonian Institution, 1905, p. 58. **Teller** BG. The Case of Some Inhabitants of East Florida 1767 - 1785. The Florida Historical Quarterly. 1954; 33(2): 97-110. **Tennent** J. Every man his own doctor: or, The poor planter's physician. 3rd. ed. Parks. Williamsburg. 1736. pp. 64-5. **Thacher** J. American medical biography, or, Memoirs of eminent physicians who have flourished in America : to which is prefixed a succinct history of medical science in the United States, from the first settlement of the country. Vol. 1. Boston: Richardson & Lord, 1828. pp. 156-7, 421-422. **Theobald** J. Every man his own physician. Being a complete collection of efficacious and approved remedies, for every disease incident to the human body. 7th edition. Philadelphia: Jones, Hoff, & Derrick. 1794. p. 80. **Thorius** R. Tobacco: a poem. In two books. Translated from the Latin of Raphael Thorius. London: W. H. 1716. p. 35. **Toledo-Pereyra** LH. John Syng Dorsey --Writer of the First American Systematic Surgical Textbook. Journal of Investigative Surgery. 2003; 16(4):189-191. **Tomb** H. "Doctor Hugh Tomb, lately arrived from Ireland" Pennsylvania Journal, Phila, Feb 12, 1761; 949: 4. **Tweedy** N. Nathaniel and John Tweedy, Druggists...cases of couching instruments. Pennsylvania Gazette (Phil.). Mar. 3, 1768. 2045:4. **Tweedy** N. Cases couching instruments. Pennsylvania Journal (Phil.). 5/17/1764; 1119, p. 2. **Tweedy** N. Couching instruments. Pennsylvania Journal (Phila). Feb. 13, 1766. Issue 1210, p. 4. **Tyler** J. Maryland Chronicle, or Universal Advertiser (Fredericktown). 8/16/1786; I(33): p. 4. **Tyler** J. "To Thomas Jefferson from John Tyler, 3 October 1801," Founders Online, National Archives, last modified December 28, 2016. Founders.archives.gov **Urlspurger** S, Jones GF (trans.). Detailed reports on the Salzburger emigrants who settled in America. Vol 13, 1749. Vol 14, 1750. Athens, Univ of Georgia Press 1989. pp. 39-182. **Van Schaack** HC. The life of Peter Van Schaack, LL. D.: embracing selections from his correspondence and other writings during the American Revolution, and his exile in England. New York: Appleton, 1842. p. 108. **Varey** S, Chabrán R, Weiner DB (eds.). Searching for the secrets of nature : the life and works of Dr. Francisco Hernández. Stanford: Stanford University Press, 2000. **Vogel** VJ. American Indian Medicine. Norman, Oklahoma. University of Oklahoma Press. 1970. **Wakefield** RS. Robert Bartlett of the "Anne" and his descendants for four generations. General Society of Mayflower

Descendants. Plymouth, Massachusetts. 1995., p. 47-8. **Walker** ER, Traver CL. A history of Trenton, 1679-1929; two hundred and fifty years of a notable town with links in four centuries. Princeton: Princeton Univ Press, 1929. Vol. 2, p. 526. **Warren** E. The life of John Warren, M.D., surgeon-general during the war of the revolution; first professor of anatomy and surgery in Harvard College; president of the Massachusetts Medical Society, etc. Boston: Noyes. 1874. p. 424. **Warren** J. Lectures upon Anatomy by John Warren, 1783-1785 (inclusive). Unpublished manuscript. Countway Library of Medicine. **Warren** JC, Warren E. The life of John Collins Warren, M.D. : compiled chiefly from his autobiography and journals. Volume 2. Boston: Ticknor and Fields, 1860. pp. 118-119. **Warren** JC. Observations on some disorders of the Eyes. N Engl J Med Surg 1816; 5:148-155. **Washington** G. "From George Washington to William Baynham, 30 July 1799," Founders.archives.gov **Waterman** EF, Jacobus DL. Descendants of Robert Waterman of Marshfield, Massachusetts through seven generations: Volume 1. New Haven. Edgar F. Waterman. 1939. p. 60. **Webber** ML. Marriage and Death Notices from the City Gazette. Historical and Genealogical Magazine. July 1, 1920. 21: 126. **Webber** SG. A genealogy of the Southworths (Southards) descendants of Constant Southworth. Boston, Mass., Fort Hill Press, S. Usher, 1905. p. 43. **Wheeler** RA. History of the First Congregational Church, Stonington, Conn., 1674-1874. Norwich. Davis. 1875: 261. **Wickes** S. History of Medicine in New Jersey and of its Medical Men, from the Settlement of the Province to A.D. 1800. Newark. Martin R. Dennis. 1879. pp. 69-74, 403-5. **Williams** SW. American medical biography; or, Memoirs of eminent physicians; embracing principally those who have died since the publication of Dr. Thacher's initial work... Greenfield, MA. Merriam. 1845. Pp. 179-180. **Winthrop** J. "An Extract of a Letter, Written by John Winthrop Esq; Governour of Connecticut in New England, to the Publisher, Concerning Some Natural Curiosities of Those Parts, Especially a Very Strange and Very Curiously Contrived Fish..." Philosophical Transactions 5.57-68: 1151-1153. **Wistar** C. De Animo Demisso. Edinburgh. Balfour and Smellie. 1786. Title page. **Yeldall** Y. Lately Arrived in this City, Dr. Anthony Yeldall. Pennsylvania Gazette (Phil.). 9/13/1770. **Yeldall** A. Dr. Yeldall is returned from the Country. Pennsylvania Chronicle (Phil.). Dec. 31, 1770. IV(49):197. **Yeldall** A. Dr. Yeldall is returned from the country. Pennsylvania Journal, or, Weekly Advertiser (Phil.). Jan. 2, 1772. 1517: 4. **Yeldall** A. A Medicinal Ware-House just Opened, by Dr. Anthony Yeldall. Pennsylvania Packet (Phil.). Mar. 21, 1774. III(126): 1. **Yeldall** A. "To remedy the disorders which mankind are afflicted with..." Pennsylvania Journal, or, Weekly Advertiser (Phil.). June 1, 1774. 1643: 4. **Yeldall** A. Five Pounds Reward. Ran away...a negroe man, named Prince, about nineteen years old. Pennsylvania Packet (Phil.). Aug. 15, 1774. III(147): 4. **Yeldall** A. "I, Mary Irons, of Queen's county, Maryland, was afflicted with blindness..." Pennsylvania Ledger. Phila. May 27, 1775. XVIII: Suppl 2. **Yeldall** A. Doctor Yeldall whose Abilities are well known through most parts of the United Colonies. Pennsylvania Ledger: or the Virginia, Maryland, Pennsylvania, and New-Jersey Weekly Advertiser (Phil.). Aug 3, 1776. LXXX: 3. **Yeldall** A. Dr. Yeldall may be consulted at his medicinal warehouse. Pennsylvania Ledger: or the Virginia, Maryland, Pennsylvania, and New-Jersey Weekly Advertiser (Phil.). Nov. 23, 1776. XCVI: 4. **Yeldall** A. Doctor Yeldall may be consulted at his medicinal warehouse. Pennsylvania Evening Post (Phil.). Mar. 8, 1777. III(324): 127. **Yeldall** A. Philadelphia, Jan 16, 1780. The greatest blessing of life is health. Pennsylvania Journal, or, Weekly Advertiser (Phil.). Mar. 29, 1780. 1333: 4. **Yeldall** A. Antivenereal Sugar Plumbs. Prepared and sold by Dr. Yeldall. Pennsylvania Evening Post (Phil.). Sep. 16, 1780. VI(694): 114. **Yeldall** A. To the Curious. On Thursday the 21st instant will be delivered...by Dr. Anthony Yeldall a Lecture on the Nervous System. Royal Gazette. New York. Mar. 17, 1781. 466: 2. **Yeldall** A. A Rational Method of Applying Mr. Yeldall's Load-Stone & Magnet, for speedily removing all curable Diseases incident to the Human Body. New-York Daily Gazette. Nov. 6, 1790. Issue: 582 p. 1063. **Young** T. Abiel Stark, of Lebanon, suffered a rupture, thro' which a portion of the gut ileum fell into the scrotum on the 21 of March 1764. Boston Evening-Post. Nov 26, 1770. 1835: 3.